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ABSTRACT

Presented is the final report of a project concerned with understanding adaptive behavior and functioning in preschool children with particular individual characteristics which may become handicapping conditions. A socio-ecological model of the development of adaptive functioning is presented which focuses on the structure of the conditions in which developmental processes emerge and the developmental issues confronting individuals under varying conditions. The various systems with which a young child must adaptively interact are addressed from a systems theoretical perspective. The systems seen to be of most concern are the primary system (family) and adjunct systems (school, peer groups, clinics, etc.). Aspects of accessing and transitions between and among systems are explored. The negotiation of developmental issues of critical importance to the young child and interactive systems are highlighted. Mediation, from a number of different perspectives, is presented. From a research framework, particular attention is paid to the compromising conditions of: mental retardation; visual impairments; speech, language, and hearing impairments; affective impairments; and learning disabilities. Implications for future research are briefly discussed. Also provided is an annotated bibliography of adaptive behavior and functioning from a socio-ecological perspective. (Author/SBH)

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FINAL REPORT

THE CONTEXTS OF LIFE: A SOCIO-ECOLOGICAL MODEL OF ADAPTIVE BEHAVIOR AND FUNCTIONING

Nancy A. Carlson, Editor

United States Department of Health,
Education, and Welfare

Bureau of Education for the Handicapped

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Project Title: ADAPTIVE BEHAVIOR IN THE EDUCATION OF
PRESCHOOL HANDICAPPED CHILDREN

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Abstract

This final report contains the results of a project concerned with understanding adaptive behavior and functioning in preschool children with particular individual characteristics which may become handicapping conditions. A socio-ecological model of the development of adaptive functioning is presented which focuses on the structure of the conditions in which developmental processes emerge and the developmental issues confronting individuals under varying conditions.

The varying systems with which a young child must adaptively interact are addressed from a systems theoretical perspective. The systems of most concern are the primary system (family) and adjunct systems (schools, peer groups, centers, clinics, etc.) Aspects of accessing and transitions between and among systems are explored. The negotiation of developmental issues of critical importance to the young child and interactive systems are highlighted. Mediation, from a number of different perspectives, is presented.

From a research framework, particular attention is paid to the compromising conditions of: mental retardation; visual impairments; speech, language and hearing impairments; affective impairments and learning disabilities. Commonalities and differences are easily seen.

Implications for future research are briefly discussed separately and are interwoven within the contexts of discussion. The report contains an extensive annotated bibliography of adaptive behavior and functioning from a socio-ecological perspective.

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We must give thanks also to the hundreds of individuals who by their written contributions, have helped to make this report a reality. We have acknowledged those individuals in the References following each section and in the Annotated Bibliography at the end. We hope the reader will appreciate the depth and scope of these contributions - a highlight of this report.

Finally and gratefully, Tom Cassel of Wayne State University must be thanked. Without Tom's enthusiastic and dedicated support, this work would be limited and non thought-provoking. Tom was more than a consultant to this project; he was and is an inspiration. The world needs catalysts like Tom.

In gratitude,

Nancy A. Carlson
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September 1976

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INTRODUCTION

The present document is the report of a project concerned with understanding adaptive behavior and functioning in preschool children with particular individual characteristics which may become handicapping conditions. Special difficulties are encountered in a project such as this in that the operative terms "adaptive behavior" and "handicapped children" are themselves very much in need of adequate formulation. In effect, a central goal of the project is a contribution to the clarification of these terms. The format of our elucidation process is to contrast various perspectives on what is meant by, and constitutes adaptive behavior; and what is meant by, and constitutes a handicapping condition. A particular concern of ours with respect to the concept of handicapping conditions is to view them as developmental outcomes of situated functioning, rather than as a presenting condition of the individual viewed in isolation. Towards the aim of elucidation we are offering the beginnings of a socio-ecological model of the development of adaptive functioning. The model we hope to articulate is centrally concerned with focusing upon the structure of the actual conditions in which developmental processes emerge, and the developmental issues that confront one under varying conditions.

Our particular view of adaptive behavior and functioning is tied to our model, and will emerge from our discussions of the model. To briefly look ahead, we suggest that adaptive functioning has both an immediate or short-term meaning, as well as a long-term meaning. In both cases, adaptive functioning is viewed as an outcome of relationships between an individual and his environment. It is an outcome of relationships that support survival and development.

Relationships supportive of survival and development characterize an adaptive fit of individual and environment. Adaptive fit is viewed as a continually accomplished, negotiated achievement produced by the individual and his environment. This achievement is, at its base, constituted by on-going processes of mutual modification. On-going processes of mutual modification occur in concert with processes serving to maintain certain necessary degrees of individual and environmental stability. It is the appropriate dialectic of modification and stability that characterizes an adaptive fit.

Adaptive behavior is viewed as behavior that furthers the mutual modification and stability maintaining processes underlying the achievement of an adaptive fit of individual and environment. From this perspective, no particular piece of behavior can be considered either adaptive or non-adaptive. Rather it is always a question of the function of the behavior in light of the relationship between the characteristics of the individual and those of the environment.

Development is taken to refer to processes characterized by increasing complexity of individual organization and functioning. Human development is considered to be at one and the same time, dependent upon, the result of, and evidenced by the individual's adaptive functioning in ever more diverse and complex human environments. Human development is at its heart a profoundly situated and humanly structured accomplishment. It is the human structure of the environmental contexts of development that provides the human structuring of the individual's development.

In this light, adaptive functioning in the immediate sense refers to the import for survival and development of the individual's functioning in a given environment or contemporaneous set of environments. The long-term sense of adaptive functioning is concerned with the potentially predictive relation holding between the pattern of the individual's relationships to his present set of environments and the patterns of his future sets of environments. This concern is thus with the course and form of the individual's future development. It is a concern with the issues as well as obstacles confronting the journey which is human development.

The analysis and model that we propose to offer were developed in response to the objectives of the present project. Briefly, the three objectives *of this project were to: 1) analyze existing information relating to adaptive behavior in the early years, particularly in regard to preschool children labeled "handicapped", 2) create a comprehensive but tentative conceptual schema into which this information might fit and 3) suggest areas in which further research and study is necessary and might be fruitful.*

In seeking to accomplish these objectives, the overwhelming importance of a model, framework or conceptual schema was recognized, not only by the funding agency, but by project staff. Recognition of importance, however, was not sufficient to allay the incipient paralysis that descended upon the staff when attempting to move into a relatively unknown and somewhat unexplored domain. We were, in fact, "handicapped". The search for secure landmarks was agonizing, the groping for pathways and navigational instruments was frustrating. It became an absolute necessity in terms of movement to have a model with which we felt secure: a guide to whom we could turn; a model which would allow us to navigate with conceptual security and a feel for the terrain.

In fact -- as we hope to show later -- the notion of guided navigation into and through novel domains is of general significance, and of particular importance in coming to understand some of the obstacles and issues confronting the child who operates with a label of "handicap".

It was by working together as members of a system that we have been able to more or less successfully achieve the goals that we had set for ourselves. This should not surprise us, because in fact, man's success as a species can be ascribed to the rise of a system in which individuals participated as cooperative members of a complex social group, thus giving rise to our uniquely powerful social cooperative solutions to adaptive problems.

That man's success as a species has depended upon the evolution of cooperatively achieved accomplishments is both too well known and too little appreciated. Our ideology of individualism has tended to blind us to both the evolutionary and developmental significance of alliances among persons. As a species, individual humans have always been profoundly weak in the face of our natural environments. Both in the development and evolution of man one may witness a process that involves the transition from weakness to strength through the mechanisms of social attachment and cooperation.

Much of both the specific and general information presented herein may be known to the reader. The context in which the information appears may, however, be novel. It may be new and it may be previously unexplored. We hope this document will serve as a guide -- a comfortable but stimulating guide for the reader to explore something that might possibly be new and hopefully of value.

Nancy A. Carlson
Thomas Z. Cassell
September, 1976

PART I

A SOCIO-ECOLOGICAL MODEL OF ADAPTIVE FUNCTIONING: A CONTEXTUAL DEVELOPMENTAL PERSPECTIVE

THOMAS Z. CASSEL

PART I

A SOCIO-ECOLOGICAL MODEL OF ADAPTIVE FUNCTIONING: A CONTEXTUAL DEVELOPMENTAL PERSPECTIVE

Thomas Z. Cassel

RATIONALE: REGULATIVE PRINCIPLES

A true story.........

Matthew was born in Viet Nam more than four years ago. His biological parents are unknown. In the eight months that he was in Viet Nam, he was shuffled, with little attention to issues of transition, between orphanages and foster homes, probably (documentation lacking) suffering severe malnutrition and deprivation in the process. He was adopted at eight months and brought to the United States to meet his new family. As a member of a sensitive family, Matthew soon began to establish linkages with his environment. Supported by these linkages, he began to explore, interact with and display increased vocalization to the members of his new family. Such behaviors thus provided evidence for the development of an adaptive fit between Matthew and his new life context.

Three months after he arrived, a baby girl was born to his adopted family. Matthew stopped talking and evidenced only minimal responsiveness. Following a period of time, in which Matthew again began to engage this new environment, he had to be hospitalized for medical reasons. In the hospital, he stopped talking and interacting. The family was very distressed.

After the hospitalization and a period of time during which Matt seemed not to "be himself", the family took him to a diagnostic center. The diagnosis of "severe mental retardation" was made, based upon an extensive battery of assessment devices given by several skilled medical and psychological diagnosticians. The family was told to eventually expect and accept a probable institutional placement.

The family refused to accept the diagnosis, prognosis, and recommended placement. Instead of a classroom for special ("retarded") children, they enrolled both Matt and his sister in a day care center after extensive and careful discussions with the staff and administrators. Three year old Matthew was placed in a full day Toddler classroom with 16 "normal" very young children, of similar size and at the same stage of development. No label was attached, but recognition was made of lack of speech. Since many other toddlers were not "talking", this was not at all unusual.

Progress was slow but sure. He talked, but only in non-stressful situations. When "testers" came he refused to interact, and in fact, "regressed", displaying protective coping strategies. Still, after six months, he was "feeling his oats" enough to venture daily into a regular preschool classroom with 2[illegible] active 2 1/2 to 5 year old children. For a short while, the familiar Toddler classroom was his home base at the center, but one day he decided to stay with his new preschool friends in a different classroom. From that day forward he has made remarkable progress.

Matt is in another local day care center now. He sees his previous preschool teacher on a regular basis. The transition to the new center was accomplished slowly and with his "sending" teacher often in attendance. Today, it is very nearly impossible to pick out this child from all the other children. He has made a successful "adjustment" (Carlson, 1976).

We would suggest that the many difficulties encountered by Matt and his family are not unique to them, but rather are representative. The difficulties are at present endemic to our society and may be considered to have their roots in two connected domains.

The concept of regulative principles

The initial source of difficulty is the manner in which our society's institutions are structured, and the correlated manner in which interactions between persons are structured. We may refer to this as the structural and interactional embodiments of our society's ideologies.

The second source of difficulty derives from the fact that professional attempts to understand, i.e., categorize, the actual difficulties, and prescribe remediation are themselves organized and guided by the very same ideologies that have in part given rise to the initial difficulties.

Recognition of this problem demands that we begin by considering the most general principles that guide both our initial attempts at theory construction, and our actual everyday encounters. Following Korner (1959), we will refer to these most general principles of organizing experience as "regulative principles". After discussing the concept and significance of regulative principles, we will present two contrasting sets of regulative principles. By this means, we hope to introduce the regulative principles of population thinking and interconnected holism. It is in light of these two general principles that our particular model is constructed.

The significance of regulative principles may be appreciated by considering them as the most general basis influencing how we see the world. If we accept, following Kant, that our experience of the world is not an immediate given; but rather, is the outcome of our structuring activities as organisms, then we may view regulative principles as representing the most basic, and thus pervasive, frame of reference. Our multifold categories of experience find their outline and coherence through their harmony with the regulative principles. For Whorf, the regulative principles would represent the basic "grammar of experience".

We feel that through various evolutionary processes, our society finds itself at a time characterized by a rather general dissatisfaction with certain of our regulative principles. This dissatisfaction is in general rather inchoate, but when achieving expression reveals itself in concerns with the quality of life, our relation to the environment, and our relations to each other. We view these concerns, and the discomfort which engenders them, as most basic concerns with our view of the world.

While a concern with the issue of the "handicapped" might not seem to require the heavy artillery that we are bringing to bear on the problem, we must emphatically demur. First, to properly understand the issue of the "handicapped" requires an understanding of our modes of categorizing persons and the relations between persons. Second, for us to properly understand the structure of our society requires that we partially disjoin ourselves, and carefully explore along our society's outlines and edges. As structurally marginal persons, those who evolve into the category of the "handicapped" must be involved to help us see more clearly our world -- the world for us all. And third, if we seek to understand and mediate relative to the issue of the "handicapped", we must try to make explicit that which guides our vision and our actions.

The reality of regulative principles

In their very generality, a given set of regulative principles may encompass an indefinitely large number of alternative empiricial theories. Our particular theory is just one that may fall under the regulative principles that we have chosen. One may accept the regulative principles without accepting the particular form which we have given them in our model. The model which we are articulating reflects back upon the regulative principles and the status which we give them.

Traditionally, discussions of regulative principles, both in their function of guiding theory construction and in their function as general ideologies of experience, have set forth these principles as abstract ideas, as purely cognitive constructions, as contents of mind. In contrast, our model, which is a model of embodied organisms and situated functioning, views regulative principles as having their root source in cultural ideologies of everyday experience. From our perspective, the ideologies of everyday experience are real, not abstract or ephemeral. Ideologies are palpable in their expression: they are built in; they are physically present in the manifold instances of our artifactually structured world. The palpable expression of our ideologies is present in and constitutes the structures of our environment.

If this be so, then to properly understand our ideology of the "handicapped" requires that we understand the structures of our environment. From our perspective, the structures of our environment constitute a particular way of life: a way of life which is the initial matrix and embodiment of particular sets of categories of actions, categories of persons, and categories of relations.

The ideology of the "handicapped" is linked to these categories and is literally embodied in the structures of our world. For us, the ideology of the "handicapped" represents particular modes of conduct intertwined with modes of conduct of all of our categories of persons. These coordinated modes of conduct correlate with the particular socio-ecological structures of our world. It is through their connection with these structures that modes of conduct come to be situated and creatively realized.

To communicate what we mean by this is a central purpose of the present document. Let us begin by considering our contrasting sets of regulative principles.

Ideal Type and Population Thinking

Our initial contrasting set of regulative principles directly concerns the issue of individual difference and individual uniqueness. While we have begun to be ever more sensitive to, and supportive of individual difference, a pervasive impediment confronts our continued progress. The impediment is our traditional regulative principle for viewing individual entities or events. This traditional view may be referred to as "ideal type thinking". It is a view that is most pervasive, affecting how we see others, and thus how we act upon the world.

A critical contribution of Darwin was his recognition of ideal type thinking, and his initial articulation of the alternative principle, referred to as "population thinking". This latter principle is now central to contemporary evolutionary theory.

Let us turn to Ernst Mayr for an introduction to the significance of this contrast.

> . . . Darwin introduced into the scientific literature a new way of thinking, "population thinking." What is this population thinking and how does it differ from typological thinking? Typological thinking no doubt had its roots in the earliest efforts of primitive man to classify the bewildering diversity of nature into categories. The eidos of Plato is the formal philosophical codification of this form of thinking. According to it there are a limited number of fixed, unchanging "ideas" underlying the observed variability, with the eidos (idea) being the only thing that is fixed and real while the observed variability has no more reality than the shadows of an object on a cave wall, as it is stated in Plato's allegory. . . .
>
> The assumptions of population thinking are diametrically opposed to those of the typologist. The populationist stresses the uniqueness of everything in the organic world. What is true for the human species--that no two individuals are alike--is equally true for all other species of animals and plants. Indeed, even the same individual changes continuously throughout his lifetime and when placed into different environments. All organisms and organic phenomena are composed of unique features and can be described collectively only in statistical terms. Individuals form populations of which we can determine the arithmetic mean and the statistics of variation. Averages are merely statistical abstractions only the individuals of which the populations are composed have reality. The ultimate conclusions of the population thinker and of the typologist are precisely the opposite. For the typologist, the type (eidos) is real and the variation an illusion, while for the populationist the type (average or ideal) is an abstraction and only the variation is real. No two ways of looking at nature could be more different. (Mayr, 1959, p. 2)

Attempts to classify the bewildering diversity of experience are activities which are common to us all, both in our day to day personal interactions as well as our professional activities. In seeking to bring order to our *experience we impose disjunctions upon what is continuous, and place in unitary categories what is diverse. To achieve this uniformity we neglect the continuity, make ourselves less sensitive to the effects of environment, shave off the incorrigible differences, and take pride in understanding "the average". We often try to hold our categories rigid while forcing into them certain recalcitrant individuals -- and once safely within our category, we strive mightily to contain the individuals therein.*

By arguing that only individual differences are real, and that the ideal is not, Darwin inaugurated a shift in our view of the world, a shift in the paradigm we use to organize experience. The effects of such a paradigm shift radiate outward to eventually affect us all.

The hold which ideal type thinking has upon us is tenacious. The American advertising world often seems to operate solely from this model of thinking. We, in fact, have become conditioned to thinking of the "right" or ideal way to dress, smell or walk, the ideal height and weight, the right make-up, hair style, and so on. . . . We all experience the degree to which this affects us each time we look at ourselves in the mirror.

Taken by itself and totally in isolation, ideal type thinking might be perceived as harmless. But it is not harmless. And it is not a separate notion. Because we happen to judge ourselves and others according to ideal standards. The degree to which we approximate the ideal is the degree to which we love and accept ourselves, and are loved and accepted by others. The degree to which we depart from the ideal standard is the degree to which we perceive ourselves as being defective. This has obvious significance for us all in terms of how we view ourselves and others. It has profound significance for the manner in which we view individuals labeled "handicapped". Almost by definition, the "handicapped" are those individuals perceived as being furthest removed from our ideal standards. They are thus defective and usually rejected. They are too far from the top of the pyramid. We may recognize that all forms of thinking in which particular subgroups are pejoratively labeled "different" (racism, sexism) may be seen as instances of ideal type categorizations.

By extension, some interpretations of "adaptive behavior", could be seen as ideal type thinking. Adaptive functioning in these interpretations is measured by the degree to which an individual displays certain pieces of behavior, which on the basis of particular community standards, are taken as the goals and exemplars of suitable conduct. This is ideal type thinking. And, if carried to an extreme, is not only profoundly anachronistic, it is potentially pernicious because it may be destructive of the individual's acceptance of himself and his acceptance by others in the environment.

To counter the effects of ideal type thinking, we must become increasingly sensitive to the significance of individual difference and the meaning of a population. Within any population of individuals, no two are alike. Since no two members are alike, it is not meaningful to speak of an ideal or representative instance. Rather, what one observes is a population of individuals, each individual displaying a unique pattern of values of variables. The methodological emphasis thus shifts from searching for the ideal type to measuring the diversity within a population; and the degree to which the diversity may be maintained under varying ecological conditions.

For any given characteristic in a diverse population of varying groups there is a particular distribution of that characteristic. Skin color, for instance, may range from very light to very dark within various groups. What is the "real" skin color? The question, of course, is meaningless. There is no "real", "normal", or "ideal" skin color. There are only variations. The variations describe a curve when plotted mathematically. Most variations in skin color are somewhere in the middle of the curve, neither very, very dark nor very, very light. This is what we refer to as the norm; though within any given group, and between groups, the norm (or one part of the curve) may be experienced and referred to as an ideal.

But the conversion of the norm to "normal" as an ideal standard misrepresents both the statistical and biological significance of the norm. Any characteristic (leg length, visual acuity, glove size) is going to show variation, is going to show diversity. The presence of diversity is critical to survival. Were all the members of a population the same, and perfectly adapted to a given environment, with a change in that environment they might all perish. By means of diversity, the possibility of survival under changing conditions is enhanced. It is upon the diversity in a population that the evolutionary process of adaptation operates. In the absence of diversity there could be no evolutionary change.

A profoundly important characteristic of man is that we have evolved in the direction of increasing diversity and increasing individuality. In comparison to all other species, man displays the greatest degree of individual uniqueness and thus population diversity. This in itself is one of the consequences of the individual weakness that we referred to previously. We are individually weak because we are born in a relatively disorganized state, and because we do not develop specialized morphological structures, e.g. canines, claws, large bulk, etc., to buffer ourselves from the environment. But this very disorganization and generalized morphology allow each newborn to take on a unique structure representing his particular active selection and embodiment of the personal, cultural structures of his environment. Through this process, which continues as long as we continue to develop, we continue to become ever more individualized. Were we to be "well-formed", and ready to take on the world soon after birth this would not occur. We would be literally locked into our morphological buffers, and would have to exchange individuality and cooperative strength and success for redundancy and individual strength and success.

We turn now to our second set of contrasting regulative principles and their associated paradigms. In this, we are concerned with an unconnected "thing" view of the world, as opposed to an interconnected, holistic view.

Things in Isolation and Processes of a Whole

We can view the world as being composed of separate, isolated things or we can view the world as interconnected processes, composing aspects or facets of some total whole. The structure of our society offers unlimited possibilities to view the world as unconnected. We're often reminded that school is different from home (and hence usually unconnected) and work, the "real world", is different from both home and school. Each university department is quite separate from any other, bosses do not relate to employees and so on. Often the assumption is made that what we do to one thing or in one place will not affect any other thing or place.

We can study a comparable situation by looking at the environment from our past or usual perspective and the more recent ecological perspective. For many years, assuming that if we did one thing it would not affect anything else, we took out trees, moved mountains, changed rivers, dumped waste and built dams. We learned that we hadn't thought about, hadn't predicted, what would happen when we did these things. We hadn't predicted the "ecological ripple effect in the system" (Carlson, 1976).

We are, in fact, looking at systems thinking and comparing it to aggregate thinking. An aggregate is a collection of elements. A pile of "Pet Rocks" is an aggregate. If you remove one Pet Rock, it will not affect the aggregate pile. If you do something to one element of an aggregate, it will not affect any other element.

To understand an aggregate all that is necessary is to understand the characteristics of its elementary units. To understand a system, such as an environment, an organism, or a social system it is necessary to understand not only the characteristics of the members of the system but also the connections between the members, and the context in which the interrelated members are rooted. A man and a worm are composed of basically similar elementary units. What distinguishes them in addition to the sheer number of elements, is the manner in which the elements are interconnected and the differing contexts in which the organisms are rooted.

We cannot help but be reminded of the blind men and elephant. Each blind man studied a particular aspect of the elephant comprehensively. Each reported accurately. Each really knew one facet. But no one knew the whole.

So it is with research. So it is in a review of the literature. We find separate, unconnected reporting, organized in widely disparate journals. We find scholars unaware of critical events occurring right next door. Researchers have often mistaken their perspective on one aspect of a total situation for being a thing independent of them. And it is not a thing or a whole, it is an aspect. It is not independent of them, it is dependent upon the particular perspective they are taking.

> The prevalent child psychology research orientation, with its emphasis on elegant methodology, instills among some groups a tendency to assume that the only way to learn anything about a mountain, an elephant, or a child is to use the microscope at one point after another. This methodologically "sophisticated" approach has produced a great deal of extremely important and interesting

> *information. And yet the efforts to look at the whole, normal children in our culture are still rare; without such efforts, we shall be deprived of guidelines and hypotheses regarding the meaning and interrelations of the variables so beautifully studied. (Murphy and Moriarty, p. 3, 1976)*

What seems obvious is that the degree to which we focus on one aspect is the degree to which we lose significant meaning of that aspect. Because, for one thing, we distort it from being an aspect or a facet into an isolated whole. And, for another, by intense focusing we forget to look at intricate attributes. The meaning that each aspect has is dependent upon it's relation to other aspects and to the whole. The weight, size, circumference, and roughness of the elephant's trunk has no meaning or significance except in relation to the whole elephant. Matt's performance in the diagnostic situation can have little meaning except in relation to his previous experiences in all of the other environments to which he had been exposed. Nor can his performance have predictive significance except to the degree to which the diagnostic setting faithfully mirrors the various real life settings in which he functions.

This does not mean that we cannot study aspects. On the contrary, we must study aspects so that we can better understand the whole. It does not mean that specialization is unnecessary or irrelevant. We must pursue areas of interest and need so that we can interact with others to better understand the whole. As Murphy and Moriarty (1976) note:

> *Psychology in the model of classical physics has tended to focus on static principles; in the model of biology the focus is on evolution and growth. Perspectives on any question about human functioning through time may also gain depth from a consideration of the history of cultures; history deals with the interplay of multiple factors contributing to both continuity and change. The history of individuals also involves continuity and change. (p. 7)*

From an ecological perspective, we must recognize that in moving a tree, one must carefully take the tree with its roots intact, one must also attend to the effects of removal upon the remaining trees, and the effects of replanting upon its new environment. How much more true is this for young children? When we remove a child from one situation and either cast him aside or move him to another situation, we are affecting 1) the state of the child, 2) the characteristic of the environment from which he was removed, and 3) the characteristics of the environment into which we would hope to transplant him.

In our earlier example, we described the continual uprooting process that Matt went through. To understand both Matt's resilience and the processes by which he and his family were able to accomplish his adaptive transplantation requires that we understand human development from the most adequate perspective. It is in light of its greater adequacy that we have chosen as our regulative principles an ecological systems perspective on population diversity. It is in terms of these principles that we have developed our analysis and model of adaptive behavior and functioning.

PREMISES, MODELS AND ISSUES
FOR A
CONTEXTUAL THEORY OF HUMAN ADAPTATION

Our model of adaptive behavior and functioning is based upon a particular set of premises concerning the characteristics and form of human development. Human development is defined as processes characterized by increasing complexity of organization and functioning. To discuss adaptive functioning, we must understand the conditions and contexts of human development.

Basic Premises

That which is characteristically human may be glimpsed in the newborn. The human newborn displays a unique mix of sensory sophistication and motor immaturity. The motor immaturity represents a relative lack of organized structure at birth. The sensory sophistication represents the avenue through which the developing infant takes on organized form from the informational structure of his environments. For the human infant to survive, he must become connected to his environment. These connections represent an extension of himself and a life-support system. To develop, he must maintain his connections to his environments so that he may take on increasingly more complex form from the environment's informational resources. Humans, in the literal meaning of the term, come to be informed through their transactions with surrounding environments.

In this sense, human survival and development are inextricably situated. The congential form of the human newborn represents the presenting resources for achieving situated connections to human environments. Man's generalized primate morphology is the result of long processes of evolutionary selection for an organism with a coherent form capable of being both complexly situated, and actively open to the informing resources of man's evolutionary environments.

The presenting state of the human newborn is characterized by the legacy of a generalized morphology, sensory sophistication, and a relative lack of consolidated and organized structure. In order to survive, the newborn must enter a world that is prepared for his coming. It must be a world prepared to augment the newborn's limited life-support systems, an environment prepared for exchange with the newborn, and prepared to buffer the newborn from physical *forces which tend to degrade and wear away all organized systems. It must be a world prepared to actively come into phase with the newborn's rhythmical functioning; and by coming into phase to establish an attachment between the newborn and his world. The attachment relations provide both a generalized support of, as well as avenues, for the informational exchange and structuring of the developing human. Information exchange, as used in this particular context, refers to all levels of exchange from the molecular to the social communicative level.*

The preparation of the environment for the child's coming, mediated on many levels including changes in the female's physiology during pregnancy, represents the first and most graphic instance of the new human's modification of his environment. A dyadic husband-wife system functioning within a given environment begins the transformation, through a pregnant dyadic system, to a triadic system functioning in a rather altered environment.

Survival and development depend upon continuous processes of modification by and of the developing person. Through these exchange mediated processes of mutual modification, the form of the environment comes to be imprinted upon the form of the new member, and the form of the member upon the environment.

To be of functional value, processes of mutual modification must take place within the constraints of other processes serving to maintain certain necessary degrees of stability. Form cannot continue to develop in the absence of stable frameworks of organization. At its base, "consistency" must refer to degrees of individual and environmental stability framing the dynamic foundation for the developmental enrichment based upon the processes of mutual modification.

Human survival is contingent upon the establishment of relations with an environment which provides the necessary minimum of buffering, stability and information exchange. This minimum is that which is required for the maintenance of the organism's essential variables within the limits consonant with survival. Beyond survival lies the possibility of development.

Human development, as evidenced by increasing complexity of organization and functioning, takes place when the conditions for survival are satisfied and when the human organism's active tendencies for informational enrichment are supported. Informational enrichment depends upon exposure to informational novelty. In that informational novelty is embodied in the social and ecological structure of developmentally novel environments, continued development requires access to and connections with an ever more diverse and complex set of environments. Human development is tied to human environments; our pathway through environments represents the journey that is human development.

The support for the organism's active tendencies is thus support for the exposure to novel environments and the transactions characteristic of those environments. Unsupported exposure to novelty is threatening to all organisms. Thus, the linkages to and the stability provided by a primary environment may serve the developmentally requisite function of accessing novel environments.

Adaptive functioning: a definition

Adaptive functioning is based upon the achievement and maintenance of an ongoing relationship between an individual and an environment. This relationship must be supportive of the individual's survival and development. Such relationships are considered to be continually accomplished, negotiated achievements produced by the individual-environment system. Their achievement is based upon the coherent mesh of ongoing stability maintenance and mutual modification processes.

Adaptive behavior issues from such a relationship, and furthers, with differing rhythms of prominence, the mutual modifying and stability maintaining processes.

In that adaptive functioning is always tied to particular contexts of functioning, we may distinguish a long-term as well as short-term meaning. In the short-term sense, adaptive functioning is measured in terms of the import for survival and development of the individual's present functioning in a given environment or contemporaneous set of environments.

In the long-term sense, the emphasis is upon the relation of the individual's present functioning to the accessing functions of his primary environment or contemporaneous set of environments. In that an individual's development is contingent upon his access to ever more diverse environments, the predictive relationship between his present and future sets of environments represents his developmental trajectory, his journey through life. The form of the developmental trajectory represents the long-term meaning of adaptive functioning.

Developmental trajectories may be compared in terms of the relative degree to which they represent access to developmentally novel environments.

From this perspective, we may speak of trajectories which are more or less "adaptive", in the long-term sense.

Developmental trajectories are not contrasted with, or evaluated in terms of an ideal type trajectory. There is no such trajectory and to engage in such a comparison would be to violate the principles of population thinking. Rather, developmental trajectories can be contrasted and evaluated in terms of the general principles of adaptive functioning and developmental access.

Viewed in this way, adaptive functioning is not a characteristic of the individual, but rather a characteristic of the individual's short- or long-term developmental trajectory. It is a characteristic of the situated, relational processes giving rise to that trajectory.

A variety of conditions may compromise the form and complexity of an individual's trajectory; and thus, the form and pathway of an individual's development. A defect in the integrity of one's connections to his necessary environment would be one such cause. A deficit in the accessing functions of one's primary environment would be another such cause.

A newborn with a congenital defect might be compromised relative to the negotiated achievement of an adaptive developmental trajectory. Such a newborn would not, however, be considered to be "handicapped". The term "handicapped" is taken to refer not to characteristics of the individual, but rather to characteristics of the individual's trajectory. "Handicapped" is an outcome of particular developmental trajectories: trajectories in which there is a limitation on access to developmental environments. Put simply, a "handicap" is a limitation on developmental access.

Precluded access to information exchange due to environmental limitation on availability or flexibility of channels, precluded access to a school due to lack of legs to walk up the stairs, precluded access to novelty due to lack of environmental support, or refusal of access to environments due to cultural discrimination are all equally and formally equivalent states of "handicapped" trajectories.

The socio-ecological perspective to be presented in our model is intimately tied to these basic premises and definitions. Rereading the preceeding sections after absorbing more fully the model, may help the reader to assimilate these rooted assumptions.

On Connections

The survival of any organism depends upon the presence of connections between the organism and its environment. Connections that are supportive of survival and development provide the basis for an adaptive fit of organism and environment.

It is critical to recognize that the integrity of an individual, on all levels of functioning, is as much dependent upon the maintenance of the integrity of his ongoing connections with his environment as upon the maintenance of the integrity of his immediate biological being. We can as surely destroy an individual by cutting his connections to his necessary environment as by interfering directly with his person. Thus, a consideration of the fit between an individual and his environment is as necessary as a consideration of the individual's characteristics viewed in isolation.

It is the consideration of the issue of fit over time, the form of one's trajectory, that will throw light on how one achieves a "normal" or "handicapped" trajectory.

While we will discuss the issue of "normal" in more detail later, we would suggest for the present that what is usually meant by normal is a relatively typical developmental trajectory for a particular societal and cultural environment.

A typical developmental trajectory can only be achieved when the characteristics of an individual mesh with those of his environments in a manner which allows the achievement of adaptive fit with only a minimum of environmental modification. However, the ease with which the adaptive fit is achieved tends to obscure the fact that it is an achievement dependent upon the stability and support of particular environmental structures. The achievement of a "normal" fit allows for what appears to be almost effortless navigation through, and functioning within the structures of one's world. This very effortlessness serves to hide from our view the necessary interconnectedness of adaptive behavior and its supporting environmental structures.

To radically alter a society's particular and accustomed structure would be to convert the effortless into the dramatically effortful; it would be to deny to those who were "normal" the ease of functioning and the ease of access. The "normal" could thus be converted into the "handicapped".

Were this to happen, even to a limited degree, those of us who approximate to some typical trajectory would find that in place of our almost effortless navigation through our accustomed world, we would bump into and be blocked by the structures of this altered world.

Those whose developmental trajectory is compromised, who come to be "handicapped", are handicapped in relation to the particular structures of a society and the way of life supported by those structures. Indeed, almost by definition, the "handicapped" are forced to assume a special status and journey in terms of a society's particular way of life.

A Way of Life

When we refer to a way of life we refer, at a minimum, to coordinated sets of conduct displayed by members of a population. In seeking to understand coordinated sets of conduct we first note that conduct is always situated conduct - it occurs in, and in relation to, a given socio-ecological context. By recognizing the situated nature of conduct, we must shift our focus from a view of individuals in isolation to a view of the total context of conduct.

This latter notion derives from the work of a group of evoluationary biologists and ethologists which has given rise to the contemporary socio-ecological perspective. Based upon work originally undertaken with related species of gulls (Cullen, 1957) and other avian species (Huxley, 1923), and more recently with primates (e.g. Crook, 1970), we have come to recognize that the conduct of members of a population comprises a complex of specific features all co-adapted to a particular set of ecological features. Specifically, in order to understand the interlocking complexes of social behavior patterns it was necessary to examine them in relation to the particular habitat and the various cycles of the animals.

E. Cullen (1957) compared the breeding behavior of cliff dwelling gulls with that of other related species dwelling and nesting on the ground, and found thirty-two differences that could be related to cliff nesting. For example, the cliff dwelling gulls use an elaborate nest building technique whereby they build a deep, cup-shaped nest, in which the young remain confined until they are ready to fly, requiring constant care throughout this period. In contrast, ground dwelling gulls construct a shallow nest using a simple nest building technique, and the young leave the nest a few days after hatching.

Thus the structure of the gulls' world, and the social interactions found, differ sigificantly in a manner correlated with the nature of their habitat.

J. B. Nelson (1967) studied the breeding behavior of gannets which also nest on cliffs, and found that gannets show many of the behavioral characteristics of the cliff dwelling gulls though the two species are not at all closely related. Thus, closely related species may show widely differing ways of life, while distantly related species may show convergence in behavioral adaptations to similar habitats.

In studying the complex social systems of primates, recent studies disclose a similar phenomenon. The patterns of individual behavior, interactive behavior and group structure of closely related species living in different environments may be strikingly different, while quite unrelated species living in similar environments display similar systems of individual and interactive behavior and social structure (Crook, 1970). The differing social structures represent the group's mode of adaptation to its particular ecology.

The individual member of the social system adapts to its habitat through the mediation of group membership. Thus for the individual, its initial and basic adaptation must be to the group of which it is a member. The particular group structure entails a particular set of social interactions and modes of social conduct whose mastery is essential for the individual's adaptive functioning. As noted by Washburn, et al.:

> Different species of monkeys and apes have widely divergent life styles; but in spite of the diversity, all are social, and survival is dependent upon a social pattern of living. The social system is the setting in which all other behavior makes sense. It provides the context for eating and drinking, for learning, predator defense, and reproduction. Hence, a monkey's most important adjustments are to other members of its group. (Washburn, Hamburg, and Bishop, 1974)

In going from infra-human primates to man, the necessity of intial adaptation to the social context takes on even greater significance. This is a result of bio-cultural evolutionary processes coming to place increasing selective pressure upon complex social cooperation as the primary mechanism of human adaptation.

From what perspective, one might ask, can social cooperation be considered to be the primary mechanism of human adaptation? Is it not tool use, or language or individual cognitive processes in general? When we look around and survey ourselves we are rightly impressed with man's technological achievements. Man is the only species which creates and occupies novel, technologically contrived environments. We are the only species not only to do this, but to continue to modify and evolve these species-created environments. Thus, we are rightly struck by the products of our technological skills. And yet, it would be a mistake to consider these skills as primary; or to consider that man evolved from his primate forbears through individual technical application of specific cognitive skills. For when we look at other contemporary primates we find that technical skills are all but absent. Primates other than man do not seem smart enough, literally, to come in out of the rain. In considering this issue, the primatologist Hans Kummer notes:

> Hundreds of bird species build nests a hundred times more elaborate than the chimp nest, which is the highest achievement of [infra-human] primate building activity. . . . Rodents dig burrows and pat them with plant parts carried into the nest from outdoors. Many collect and hoard food. There is not one among the two hundred or so [infra-human] primate species that constructs an ever-so-simple burrow or does much with food but eat it on the spot. . . . Although primates have prehensile hands their use of tools is modest. . . . Nobody would have predicted that a primate would develop a technology of human dimension. (1971, p. 146)

In seeking to resolve this problem, and understand what it was about the primate context that allowed for the possibility of the rise of man, Kummer points to two factors. First is the generalized primate morphology. A specialized morphology entails highly constrained and thus relatively rigid behavior and skills. A generalized morphology allows for behavioral flexibility and plasticity, though with the necessity for extended periods of dependency and socially supported developmental acquisition.

The second factor can be seen as a concomitant of the first: the complexity of social organization. For this factor, Kummer refers to the perspective of the ethologist Michael Chance. Chance has proposed that the primate context for critical evolution and eventual tool use was not the context of technical exploitation of the habitat, but rather the context of complex social interactions within an organized social structure (Kummer, 1971).

For a developing primate, successful adaptation requires that the primate know the individual characteristics of the members, the interactive alliances and antagonisms, the subgroup structures and domains, and the intergroup relations of the social group of which he is a member. "Whereas wild monkeys use no technical tools to exploit their habitat, they manifest analogous schemes in their social behavior" (Kummer, 1972, p. 149). Kummer continues by noting that "the ability to predict combined effects and to control one's own behavior may thus be among the primate predispositions for human adaptations" (p. 149).

From this perspective, we derive the concept that the template for individual cognitive categories is the structure of the social group within which the young primate develops. The structure of the group serves as the model for the structuring of experience.

In order to develop "schemes" for control and conduct within a social group, the developing primate must gain access to the varying subgroups composing the social system.

In Figure 1, the spatial organization of the subgroups of the group structure of the Japanese macaque are portrayed. The dominant adult males are situated in a central core region which includes the female assembly and infants. Ringing this central core are subgroups of subdominant and subadult males. Wherever in its range the group finds itself this overall structure is to be noted. Not represented in the figure is the fact that the spatial organization also represents a dispersal of subgroups within differing ecological contexts. Thus, each region represents both a particular social and a particular ecological context. Each region is, therefore, a unique socio-ecological environment.

The arrows represent the developmental pathways traversed by individuals of the troop. It is immediately apparent that developing males and females follow differing developmental pathways. In addition, the relation of infants to the dominant males is strongly influenced by the status of their mothers. Offspring of high status mothers have more frequent and more supportive relations with the dominant males (Itani, 1954). This early process carries on throughout development influencing the particular characteristics of the individual's developmental pathway.

As an individual enters a new socio-ecological environment, new forms of interaction are present, and new modes of conduct develop. Each region is literally a developmental context. As a consequence, access to new regions represents access to the context of continued development. Precluded access necessarily compromises the individual's development, and facilitated access enhances the individual's eventual adaptive functioning.

For man, the initial social context within which we must achieve adaptive functioning is the family. Beyond the family, adaptive functioning is dependent

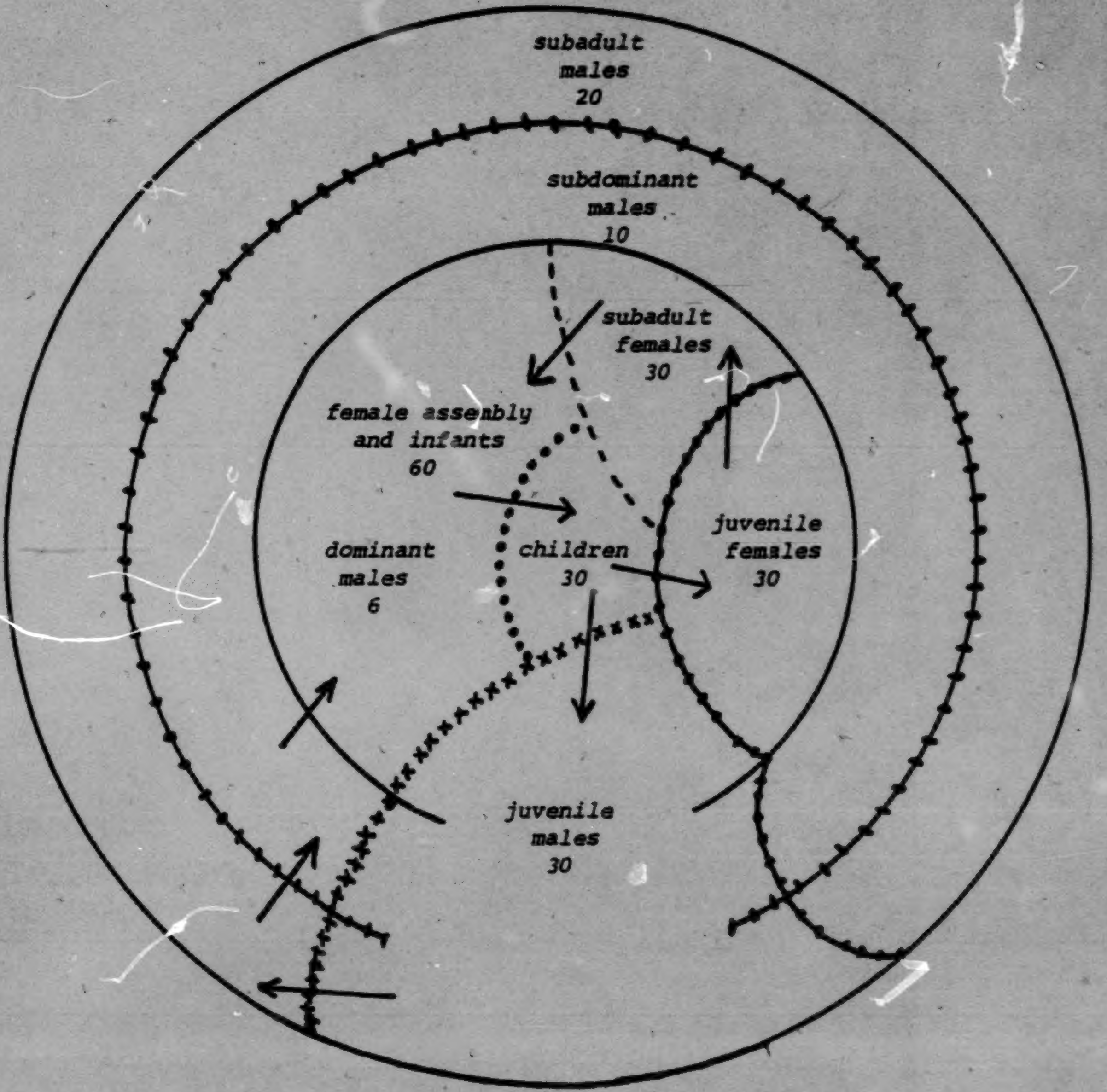
subadult
males
20
subdominant
males
10
subadult
females
30
female assembly
and infants
60
dominant
males
6
children
30
juvenile
females
30
juvenile
males
30

Figure 1. Spatial organization of group structures of Japanese macaques, Macaca fuscata, of Takasakiyama (after Itani, 1954). Arrows indicate developmental pathways.

upon achieving a fit with a variety of social settings. Each social setting is characterized by its particular ecological and social structure, and each entails a particular range of social interactions and modes of social conduct.

For example, recent sociolinguistic studies detail the various ways in which both one's speech and one's conduct shift as one enters and functions in various environments (e.g., Giglioli, 1972; Gumperz and Hymes, 1972). Changes in environment and coordinated sets of conduct may be subtle, but they are there to be seen. Blom and Gumperz (1972) describe a scene in a small Norwegian town in which a resident, speaking in standard dialect, concludes his business with a clerk and then asks him to step aside. They "step aside", their postures change, and they are found speaking in the local dialect.

Thus, a given context of conduct is describable in terms of its ecological structure and its social structure. As the studies above indicate, the ecological structure constrains the possible forms of social structure. The social structure constitutes the immediate environment that patterns individual and interactive conduct.

While the socio-ecological perspective is somewhat novel, and partakes of its own jargon, the observations are available to us as everyday knowledge. If we watch ourselves we will clearly note how our conduct and all its extensions changes and shifts as we move from bedroom to bathroom, from kitchen to dining room, from foyer to the street, from our desk to the coffee machine, or from a same sex gathering to a mixed gathering. In each instance, our shift in conduct is correlated with a shift in the social and ecological structures of the environments in which it transpires.

By appreciating the intimate relationship between the structure of the socio-ecological context and modes of conduct, one is led to the idea that in order to understand any particular pattern of behavior, one must understand the particular socio-ecological context with which it is correlated. To modify patterns of behavior would require modification of the socio-ecological context. Changes in one or more aspects of the total context of conduct will propagate through the system affecting all aspects, leading to a new adaptive correlation between conduct and context.

The support for conduct provided by a society's structures, and the constraints imposed upon conduct by those structures, may be most clearly appreciated by looking at those whom the structures do not well support.

Those who are handicapped relative to a society's structures help us to see those structures. And it is only by seeing and understanding the import of socio-ecological structures that we may hope to effectively mediate for those handicapped by a society's structures.

One aspect of the human way of life is the manner in which we deal with those who have difficulty achieving and maintaining adaptive fits with our particular contexts--those referred to as "handicapped". It is important to seek to determine why we have traditionally dealt with the handicapped by pejorative labeling and one or another form of social exclusion. While there presumably are a number of both general and specific reasons to account for this process, we would suggest that a consideration of two aspects of the human way of life may shed light on this problem. These aspects may be considered under the headings of structural and interactional determinants.

Structural Determinants

All human societies require for their functioning particular cultural structures embodied in the society's institutional formats and associated support instrumentalities. These formats and instrumentalities are realized in terms of particular design features--features found in tools, utensils, housewares, shelters, kitchens, living areas, work areas, sleeping areas, and so on. The formats and instrumentalities support and circumscribe the particular way of life characteristic of any given society. The survival of a society is as much dependent upon the maintenance of the integrity of its formats and instrumentalities as the integrity of its members.

In addition to a society's formats and instrumentalities, the structural determinants include the actual morphological structures of individuals, of groups, and of other biotic species. Conduct takes place within, around, and in relation to these structures. The form of that conduct is directed and constrained by these structures.

Initiation into a social system entails the development of situated conduct: conduct which is situated in relation to the structures of the situations in which it occurs. As we will discuss in more detail later, development takes place in relation to, and in the context of a society's varying structural domains. By functioning within these domains, the individual's development comes to be structured. In addition, individual competence is evidenced by adaptive conduct in a diversity of domains.

The society's mode of life serves as a filter, separating those who are easily initiated into it from those who are not. The "handicapped" in any given society are recognized by the difficulties that they have with the existing formats and instrumentalities of that society.

The cultural structures of a society determine the specific segment of its population that will be experienced as, and labeled and treated as defective or handicapped. This segment will differ from society to society depending upon differences in societal formats, instrumentalities, and morphological structures. In a socio-ecological sense, each society's structures select that society's set of deviants.

Because the society's mode of life serves as a filter, a rather heterogenous aggregate of members and groups of members of that society will be restricted in their access to both major and minor environments within that society. This restriction on access will deny to those members the possibility of developing in relation to the modes of conduct and sets of skills situated in and of those environments. Their development will,therefore,be handicapped. The effect of restricted access will be restrictions on the development of particular modes of conduct and skills specific to given environments. As a consequence of this, the appearance of such members on the fringes of one of these environments will constitute a perturbation of that environment. This perturbation will result from their socio-ecologically imposed inability to conduct themselves in coordinated coherence with the socio-ecological structures of that environment.

This perturbation effect combined with other factors, such as the frightening exemplification of a state of vulnerability, will cause these excluded members to attract attention and require a societal response.

Either the socio-ecological structures may be modified to allow for access of those who are handicapped in terms of the present socio-ecological structures, or the handicapping state of exclusion may be reinforced. Traditionally, societal response has taken one or another form of the exclusionary response mode. This exclusionary response represents the conservative tendency embodied in social institutions. The implicit demand for structural change *that is represented by the compromised state of the handicapped is experienced as a threat to the integrity of the societal institutions. The traditional response to this threat is pejorative labeling and social exclusion.*

From a historical perspective, it is not difficult to understand the frequent choice of this response mode. In earlier stages of cultural evolution, societies were only rarely able to achieve more than a minimal or precarious state of institutional stability and security. Their purchase upon the future seemed to be continually threatened from both within and without, from climatic vagaries to social insurrections. In light of this social instability, a creative response to the challenge of the handicapped was unlikely.

New levels of social stability provided by contemporary industrialized societies seem to make more possible the alternative response mode of creative modification. The possibility of this response mode, combined with our increasing awareness of and sensitivity to the issues demands that we consciously choose a response mode and take responsibility for that choice.

Interactional Determinants

Constrained, supported and guided by the structural determinants, one interacts with others. With whom one can interact, when, where, and how represent the outcomes of the interactional determinants which structure and pattern our social exchanges. These determinants are evidenced in our use of social categories and labels to represent the permissable modes of interaction. What we refer to as "interactional determinants" is concerned with what has traditionally been dealt with under the heading of "role theory".

Why do we again choose new jargon rather than sticking with the old? We are led to this choice because role theory is based upon a nonsituated, individualistic perspective. It is a perspective which is based upon a theory of attitude formation; a theory in which one plays at being a person. The notion that we live rooted to our environments, that we live in and through our structured environmental connections is alien to a theory whose central metaphor is a staged performance.

What then might be the relationship between the categories that we use to refer to ourselves, to others, and to our actions and the actual situations in which we use these category terms?

A perspective from which an answer to this question may eventually derive is to be found in the work of Harold Garfinkel (1967). Under the heading of "ethnomethodology", Garfinkel is concerned with "the study of the rational properties of practical actions as contingent ongoing accomplishments of organized artful practices of everyday life" (1967, p. 11). For Garfinkel, the interactional structure of a setting is an accomplishment. It is accomplished by the cooperative work of the members of the setting, which setting is itself in the process of being realized. The members work together as production cohorts; the accomplishment is the central project of their cooperative work. The co-workers are continually adjusting themselves to each other, through all communicative modalities, for the purpose of realizing and achieving a meaningfully organized interaction. A meaningfully organized interaction is one which is reportable within the categories available; by being reportable it is warranted as an interaction.

For Garfinkel, to understand any aspect of an interaction it is necessary to view that aspect as "the managed accomplishment of organized settings of practical actions" (1967, p. 32). From this perspective, Garfinkel notes that: "Any setting organizes its activities to make its properties as an organized environment of practical activities detectable, countable, recordable, reportable, tell-a-story-aboutable, analyzable - in short, accountable" (1967, p. 32).

In order to be accountable to the unique specifics of each situated encounter, the communicative expressions used in that encounter must be open and flexible enough to be made to fit. It follows that the specific meaning of a communication is realized through the temporal course of the interaction in relation to the specific structure of the setting. Meaning is thus a negotiated achievement of the co-workers in the production cohort. It is in this sense that our most mundane interactions are creative, artful accomplishments.

All of our social interactions thus have a dual aspect quality. This follows from the realization that our accounts of a setting are themselves constituent features of the setting. What we know of a setting we know from within - as co-workers in its development, who are at once contributing to, and accounting for its development. Our actions and the actions of the other *co-workers are taken as documentary evidence of a developing, and reportable sense of occasion.*

What one says in an interaction - what one "reports" of one's activity - is occasioned by the setting. In thinking about interaction, we have traditionally focused our attention on what we refer to as a "conversation". However, this analytic focus, the conversation, does not exhaust, let alone dominate the on-going work. It is an occasional feature of the on-going work used for a multiplicity of purposes including focusing, screening, leading, modulating, contacting, diverting, halting, and destroying the interaction.

What is the significance of this perspective for the issue of the handicapped? Let us answer this question by contrast with the perspective of role theory. For role theory, the central issue is how our unrooted assumptions cause us to see one another. A theory of the handicapped is thus a theory of unwarranted social discrimination.

In a recent paper by Gleidman and Roth (1976) presented to the "White House Conference on Handicapped Individuals", one finds an explicit presentation of the role theory perspective. Gleidman and Roth ask us to question ourselves as to whether the interactive obstacles to interaction with the handicapped are not "obstacles whose ultimate origins are to be found not in the bodies of the disabled but in the minds of the ablebodied" (p. 3)? They continue by suggesting that "It is one of the central theses of this essay that just as beauty is in the eye of the beholder, so to a remarkable extent is handicap" (p. 7). And again, "It is our attitudes, not the handicapped person's biology, which define him as a failure. . ." (p. 12). And how do we change this situation? It "can be changed if enough people care" (p. 10).

While the liberal ideology which is present in this perspective, is most appealing, we would suggest that it is fundamentally misguided. It follows from the present perspective that it is neither our attitudes nor another's biology which are the alternative explanatory choices. But rather, the critical issue is the developmental relation of the two to the actual socio-ecological structures of our world. The role theory perspective is both too simple and too pessimistic. It is too simple in that it neglects the socio-ecological constraints upon conduct, upon access, upon interaction, and upon development. And too pessimistic in that change can only come about by *winning the hearts and minds of all - and we know how unlikely we are to succeed in an endeavor of that sort. Gleidman and Roth plaintively note how all would be fine if only we could "forgive [the handicapped] for being different" (p. 9).*

But fortunately, thus making mediation possible, the interactive obstacles are not only in our minds. The obstacles are represented by the palpable structural constraints upon situated conduct. Although Gleidman and Roth interpret all of their examples of interactions with the handicapped as problems "in the mind of the other actor" (p. 34), it is abundantly clear that this is simply not so. What is described are profound and pervasive disturbances in the structure of everyday life. The socio-ecological structures supportive of conduct are broached.

A blind man enters an office and Gleidman and Roth's fictional everyman stops working. The scene is described: one cannot read the blind man's state or intentions since his face is either uncommunicative or miscommunicative; one doesn't know where to stand, where to sit, how to move; one doesn't know how to conduct himself.

Gleidman and Roth's blind man is in fact developmentally complex, and from our perspective only mildly handicapped. Were he to be more handicapped, the confusion introduced would be greater. His navigation into and through the environment would be greatly compromised - he would be more palpably bumping into the structures of the office. Is this then a problem only of role stereotypes? If a socio-ecological setting is seen as actually structured and artfully accomplished and not as a movie set or background stage as in role theory, then it cannot simply be a problem of role stereotypes.

An individual who has become handicapped in relation to a society's socio-ecological structures represents an actual perturbation of those structures. It is a perturbation of the taken-for-granted, mundane, on-going achievement of situated conduct. As a potential interactive co-worker, he represents a pervasive perturbation of the structure and functioning of a setting. It is a perturbation because it does not allow for the continued reciprocal adjustment of conduct. It is not coherently reportable while ongoing, and thus defies its warrant. This effect is in and of the setting, and not essentially in the hearts and minds of others. This hard fact must be recognized if mediation is to be properly directed and effective.

The issue of mediation will be dealt with in other parts of this document. At present, we would simply note that mediation must be primarily preventive. From a preventive perspective, mediation involves information input and reorganization of structural determinants to allow for developmental access to environments. Such mediation would minimize the possibility of socio-ecological handicap as a developmental outcome. Through the concomitant coadaptational changes in conduct to an altered environment, the interactive functioning of those who are presently handicapped would become more adaptive.

A Representation of the Socio-Ecological Model

In considering the foregoing we are directed to examine human functioning as a necessarily situated process, and not as a process that can be understood by viewing the individual in isolation from his necessary and varying socio-ecological environments.

In coming to terms with a model of situated man, attention is focused initially upon five aspects (Cassel, 1974):

1. The characteristics of the individual
2. The social and ecological structure of the particular environment
3. The continuous active exchange processes connecting individual and environment
4. The accessing relations between environments, and the individual's cross-environment transitions
5. The negotiation of adaptive fit

These five concerns are considered to represent five aspects of the total situation relative to adaptive functioning. Since these are interconnected aspects, discrepancies, difficulties, deficiencies, and disharmonies with any one of these aspects will directly compromise the adaptive functioning of an individual. It is because all are interconnected that they must be seen as aspects of a whole rather than as separate elements. As aspects of a whole, any change in one will radiate outward and directly or indirectly affect each of the others.

To attempt to represent what may be a four dimensional model in a two dimensional space is, at best, difficult. Interconnected events, changing over time and space, as a result of exchanges between individuals and environments are almost undetailable. The manner in which given contexts are also subsets of larger contexts is difficult to represent adequately. The larger historical context in which specific ongoing exchanges are situated is almost impossible to illustrate. Hence, Figure 2 represents only a primitive model from which we may begin to analyze the total context of conduct.

In the following sections we will highlight those aspects of the model that are considered to be most salient for our present concern with adaptive behavior and functioning. We will begin with a discussion of exchange processes,

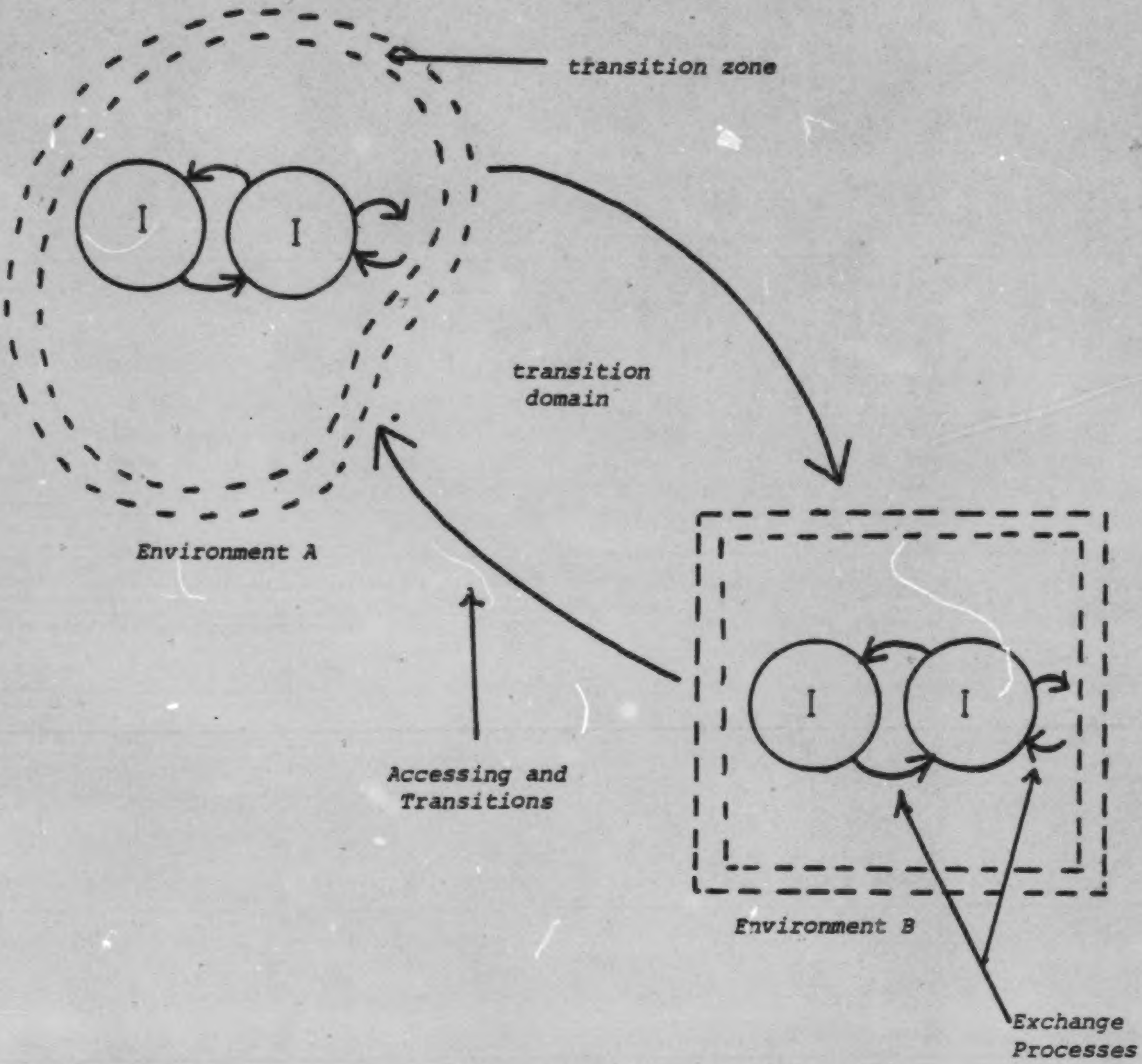
transition zone
I
I
transition domain
Environment A
Accessing and Transitions
I
I
Environment B
Exchange Processes

Figure 2. Graphic representation of aspects of a socio-ecological model of contextual development (after Cassel, 1974). I stands for the presenting structure of the individual.

then turn to a discussion of the negotiation of fit, and conclude with a discussion of accessing and transitions. We will discuss the issue of the characteristics of the individual, and individual difference within the context of the following three sections. Inasmuch as we have already discussed in some detail the notion of socio-ecological structure,we will not discuss this aspect in an additional section.

Exchange Processes

The interdependencies of all living systems is recognized by the presence of essential exchanges which link together and support the interconnected systems. To appreciate our own necessary exchanges,we need only consider the carbon dioxide-oxygen exchange process that links us to green plants and phytoplankton. On another level of organization,consider the complex exchange linking beekeeper, bees, and flora; on another managed level, consider our cultivation and provision of vegetable protein for ruminants in exchange for animal protein. Or again, consider the newborn at the mother's breast: this situation represents a multi-leveled exchange process involving biological and psychosocial exchanges.

Exchange processes represent the manner in which an organism is connected to its necessary medium of existence. The emphasis is upon the unending presence and wide variety of give and take which characterize living systems. A striking instance of exchange is found in a triadic exchange process linking a lactating mother rat with her pups and the pups with each other. Friedman and Bruno (1976) detail an exchange network in which the pups take milk from the mother and the mother reclaims nearly two-thirds of the water she loses to the pups through the lactation by consuming the urine of the young. In addition, the young exchange water between themselves through inhaling water evaporated by their littermates.

A striking exchange on the human level is seen in the frequently reported observation that many breastfeeding mothers experience orgasm during lactation. This form of exchange is of course in addition to the manifold physiological and social exchanges linking a breastfeeding mother and her infant.

In addition to exchange processes linking individuals, the primate and anthropological literature is replete with instances of exchange of individuals *between groups thus linking the groups. In fact, there is evidence that for a number of primate species, individual exchange between groups is a structured aspect of inter-group organization (Itani, 1954; Chance and Jolly, 1970).*

Among the most salient set of exchange processes among persons are those exchanges mediated by the sensorimotor systems. While it has been traditional to view the sensory systems in the manner of passive receivers, Sullivan (1953) has urged that they are more rightly to be viewed as "zones of connection" linking person to person through communicative interchanges. Mutual gaze, mutual touch, mutual vocalization all equally are exchange processes maintaining and modulating our interpersonal connections.

In the organization of conduct, the ongoing processes of mutual adjustment are mediated through constant exchanges. Practical actions are contingent upon the presence and form of ongoing exchanges. And the accomplishment of an interactional structure is dependent upon the constancy of informational exchange.

In general, all organisms develop and function in interactive relation to particular physical, biological and social levels of organization. To function adaptively, organisms must establish and maintain exchanges with each of these levels of organization. Across various levels, from the most basic processes of active exchange of particulate matter across cell membranes to the most complex processes of information exchange, e.g., our present writer and reader relationship, living systems engage in constant and continuous, though rhythmically waxing and waning, processes of exchange.

These processes of exchange not only connect and support interdependent organisms, but, in addition, contribute form to the very structure of organisms. It is in this sense that living systems are not only made for, but also made by each other. From this perspective, an individual's dynamic structure is to be viewed as the functional product of the history of his particular exchanges, as constrained by his presenting structures and the structure of the context. As such, our form will bear the marks of our particular past and present exchanges. How one sits, stands, walks, gestures, speaks, scans, touches others and so on will all have been given form by and will all exhibit the history of one's exchanges.

In light of this, individual differences in the functioning and/or sensitivity of our zones of connection may profoundly influence the possibilities and forms of interpersonal exchange. Influences on the possibilities and forms of exchange will have two interconnected effects. First, connections to others, mediated by exchange, and the myriad of support functions served by those connections will be effected. Second, the manner in which one takes on form through the agency of exchange processes will be effected.

In that the characteristics of one's zones of connection are given by one's congenital morphology, congenital allomorphisms represent a potentially compromised state with respect to the possibilities and forms of interpersonal exchange. Defects in the sensory systems are the most obvious instances of individuals compromised for the possibility of exchange. While exchange is absolutely necessary for survival and development, there is no evidence as yet indicating that particular forms of exchange, such as visual exchange, are critically necessary. Rather, the critical issue is whether exchange can be established given the congenital characteristics of the developing individual.

The importance of exchange, and the necessity of searching for alternative modes of exchange in the absence of the typical modes is clearly revealed in the sensitive reporting of Selma Fraiberg on her work with blind infants and their mothers (1969, 1971, 1975).

The centrality of the archetypal exchange process of adult speech and infant visual regard is brought out by Fraiberg in many of her case descriptions. Using herself as an example, Fraiberg describes the differing effects upon her state, and her differing conduct when interacting with a blind infant (Toni), and with a sighted infant (Lennie) who had been severely neglected and reared as a blind infant.

> I did very little talking when I was with Toni. This troubled me. Toni was a responsive and endearing child. Lennie depressed me. I enjoyed holding Toni. I had to overcome some feelings of revulsion when I held Lennie. But I talked to Lennie. What was the reward? . . . When I talked to Lennie long enough, I elicited brief moments of visual fixation of my face and a meeting of eyes. When I sustained his fixative long enough, I elicited a ghost of a smile. . . . The voice, even the voice of the mother, does not automatically evoke smiling in blind infants. I missed that in Toni. I still miss it in blind infants, and my team members share this feeling with me. (1974, p. 216)

Not only is it important to recognize the function of exchange for the establishment of interactive connections, but that also the absence of certain forms of exchange have real and continuing effects upon the general state, and thus the behavior, of an interactant. This is particularly the case for visual exchange. For man is a primate for whom the centrality of vision, the eyes, and the face have an evolutionary history of tens of millions of years.

That Fraiberg is indeed speaking of exchange processes becomes clear when she notes that:

> What we miss in the blind baby, apart from the eyes that do not see, is the vocabulary of signs and signals that provides the most elementary and vital sense of discourse long before words have meaning. (1974, p. 217)

As Fraiberg (1974) notes, the critical issue for the mother-blind infant dyad is the discovery and development of alternative avenues of exchange. In the absence of their discovery and use, there is a very high incidence of severe developmental disabilities in the general blind child population.

Among the alternative avenues discovered was tactile communication, and particularly directing the mother's attention to the communicative expressiveness of the infant's hands.

> When we examined mother-child reciprocity, we looked at the mother's face and the baby's hands. (The baby's face told us very little.) . . . It was--and still is--a bizarre experience for us to read hands instead of faces. . . . The blind baby's face does not reveal signs of discrimination, preference, and recognition. . . . Yet once again, if we shift our attention from the face of the blind baby to his hands, we can read an eloquent sign language of seeking wooing, preference and recognition. (1974, pp. 225, 228)

The importance of exchange, and the necessity for exploration of alternative avenues in the presence of an impediment to a particular zone of connection are clearly apparent in the case of a blind infant. However, this issue applies to all mother-infant dyads in differing degrees. For there is a range of individual difference in the differing sensitivities of the zones of connection for all infants--and likewise for all mothers. Some infants, and some mothers, are more visual, others more auditory, still others more tactile and so on. For adequate exchange to be established there must be some meshing of the preferred modes of interaction of the infant and those of the *mother. In cases in which a meshing has not been achieved the development of the infant may be seriously compromised. This applies to all infants, and not only to those, such as blind infants, whom we immediately recognized as being "at risk" for the achievement of adequate exchange. In those cases in which, due to a mismatch, adequate reciprocal exchange has not been achieved, mediation in the direction of achieving reciprocity of exchange may be indicated.*

The processes of exchange may thus be seen as providing the basis upon which persons may work to develop and maintain an adaptive fit. Processes of reciprocal contingent interaction, which many have considered to be critical for proper development, may be seen as one level and type of exchange process continuous with other levels of exchange.

The recent emphasis in developmental research upon the bidirectional nature of adult-child interactions (Rheingold, 1966; Bell, 1968) may be situated in this more general context, and leads directly to a concern with interactive matching or fit.

Bell (1968) notes how a given newborn may elicit significantly different responses from different caregivers. Similarly, research by Sander (1969, 1972) had detailed the manner in which different infants tend to elicit differing responses from the same experienced caregiver. We may note that from our perspective the outcome of such situations would be seen as involving an infant in a variety of different exchange processes; with each set of specific exchange processes being unique to the particular dyad.

In addition, Moss' findings (1967) clearly demonstrate how the characteristics of the participants mesh in such a way as to give rise to different dyadic systems. Among other differences displayed by such systems one would expect to find differences in the relative degree of child-caregiver fit.

The Negotiation of Fit and the Sequence of Adaptations

In light of the above, we would suggest that the harmony of the reciprocal relationship between a child and his environment not be viewed as a static matter, given once and for all. But rather, to achieve harmony, the members of a social system must continuously engage in an active process of bidirectional modulation through exchange.

The notions of the meshing of modalities of exchange and bidirectional modulation lead to a concern with the biological concept of adaptive fit.

In its most general evolutionary sense, adaptive fit is seen as the mutual, reciprocal relationship between an organism and its environment. The relationship involves exchange processes, and is supportive of survival for all members of the relationship.

In general, the fittingness of organisms and their environments is considered to be the evolutionary result of the reciprocal structuring influences of organism on environment and environment on organism. Concepts of circular causality and feedback attempt to account for the development of balanced systems. "The miraculous fittingness of the various environments, and the interdependencies of all living systems is to be understood from this perspective. We are made for each other because we are made by each other" (Cassel, 1972). In a developmental context, adaptive fit is likewise considered to be the result of reciprocal structuring influences.

In a series of papers, the psychoanalyst and infant researcher Louis Sander (1962, 1964, 1969) has articulated a striking paradigm for the investigation of adaptive fit, as this relates to the early development of the mother-infant system. Based upon an intensive longitudinal analysis of 22 mother-infant pairs followed over the first 18 months, Sander came to recognize a cyclic character to the events of a dyad: periods of stress would be followed by periods of harmony, and particular concerns for a given dyad tended to reappear on a similar timetable in the activities and events of other dyads. As Sander (1969) notes:

> *This gave the impression that we were watching a sequence of adaptations, common to all the different mother-infant pairs, although acted out somewhat differently by each. Each advancing level of activity which the child became capable of manifesting, demanded a new adjustment in the mother-child relationship. . . . As one follows the mother-infant pair from the beginning, one can represent the degree of harmonious coordination which will be reached in any one of the epochs as a particular open ended question, i.e., an issue, which is in the process of being settled for each individual pair. (p. 191)*

For Sander, the process of resolving an "issue" was a matter of interactive ***negotiation****. The members of a dyad, through a process of mutual modification, negotiated together the developmental issue confronting them as a pair. This negotiation process was seen by Sander as a basic characteristic of open systems: the negotiation process was at work whether one looked at the achievement of day-night differentiation during the first few months,* or the organization of the infant's self-assertive navigations during the end of the 18-month period.

During the course of the infant's first eighteen months, Sander recognized the presence of five major adaptational issues. Each issue required a particular process of negotiation between infant and caregivers. The manner in which the dyads negotiated each consecutive issue gave rise to the sequence of adaptations characteristic of that dyad. Following Sander's analysis, we would suggest that in its most specific sense *adaptive fit is the temporary outcome of complex ongoing situated processes of negotiation: an outcome that must be periodically reachieved in the face of new, emerging issues.*

We emphasize that adaptive fit is the achievement of a situated negotiation process in that each and every socio-ecological environment presents a novel demand for the achievement of fit relative to the specific characteristics of that environment. The achievement of fit is thus situated in, as a constitutive part of that environment.

Whether a given child will achieve an adaptive fit with a new socio-ecological environment can now be seen as an issue confronting the child and that environment: an issue to be negotiated by the participants. And only consequent upon successful negotiation will the child come to manifest the presence of a particular degree of coordinative functioning, which would represent his degree of adaptive fit.

In that adaptive functioning for all developing persons refers to adaptive functioning in a variety of socio-ecological environments, adaptive functioning may be seen as referring to a multi-contextual process. As we noted previously in reference to the subgroup developmental contexts of the Japanese macaque, each socio-ecological environment poses its own developmental issues. The adaptive resolution of these environment-specific issues allows for adaptive functioning within that environment, and increases the individual's developmental complexity. This is the case when the young macaque moves from the central core region, to the children's play group context, to the juvenile male cohort context and so on. In each instance, the developing macaque is confronted with a new socio-ecological environment providing for exposure to new informational complexity and serving as the context for developmental advances. It is in this specific sense that we earlier suggested that development was a contextually situated process; and that diverse socio-ecological environments provided the conditions for, and issues of development.

By considering development as a contextually situated process a new developmental issue of central importance is revealed. It is clear that in order to take advantage of a socio-ecological environment as a developmental context, access to that environment must be provided. In addition, a successful transition into that environment must be achieved. This recognition brings us to a consideration of the accessing relations between environments and cross-environment transitions.

Accessing and Transitions: Contextual Development

Even as infra-human primates, gulls, and rats have served to exemplify certain socio-ecological issues, so will we now draw from research with the species wolves to better illustrate the importance and biological rootedness of transition.

Wolves: transitions and environments The developmental necessity of differing socio-ecological environments and the significance of transitions between environments may be easily appreciated by reference to aspects of the temporal structure of the caregiving behaviors of a wolf pack. Wolves may be of particular interest in that the highly cooperative organization of the pack for hunting and care of the young has suggested to Etkin (1964) that the social organization of protocultural man may be more adequately modeled on that of wolf societies than that of exisitng infra-human primates.

At the time of impending parturition, the wolves of a pack dig out a den in a heavily wooded and buffered context, and in this protected environment the female has her young. The location of the den serves as a pivot for the establishment of a new territory around it. The social structure of the entire pack comes to be recognized in terms of this territory, and the interactions of the pack with the mother and young.

> The pack defends the area within a quarter of a mile or so of the den as a territory, both against strange wolves and against potential predators, such as bears. After hunting, members of the pack bring back bones and pieces of meat to the den area and bury them. Thus the mother, who does not hunt for the first few weeks is able to feed, and eventually the young pups benefit also. All members of the pack, both males and females, will vomit food for the young puppies after they are able to eat it at approximately three weeks of age. (Scott, 1973, p. 126)

The move to this birthing environment represents a significant transition and structural reorganization of the entire wolf pack. As we noted earlier for human families, the wolf pack becomes "pregnant", and makes a transition to a new socio-ecological environment. The transition exposes all members of the pack to a new developmental environment wherein new interactions and new modes of conduct develop and come to be organized.

Following this birthing period, another radical transition is made from the birthing environment to what we may refer to as a "transitional" environment. When the pups are several weeks old, the entire pack leaves the birthing environment and establishes a home base in a very different ecological context. This new context is usually an open, parklike area with adjacent brushy woods (Theberge and Pimlott, 1969). As with the previous transition, the transition to this new ecological context occurs with a concomitant reorganization of the social structure of the pack. In this new environment, the half-grown pups engage in much peer-peer interaction as well as play and exploratory behaviors. In addition, the adjacent brush woods provide a context in which the pups can hide while the adults are away. The pack continues to use this environment as a home base, with the pups remaining within it, until the pups are between four and five months old.

At this point, yet another restructuring transition takes place, with the pack abandoning the transitional environment. In this case, however, two alternative developmental pathways are open, and hence the availability of more than one new socio-ecological environment. But, in fact, the pups are "ready" to make this next adaptive transition. The litter may stay with the parent pack as the pack goes on to establish a new home base, or may leave to form a new pack of their own with the establishment of their own home base.

With this case history as a model, it is not difficult to recognize that a formally analogous situation holds for human development. Among man's various developmental environments some are of long evolutionary history, such as the family home and the situated men's group, though their structural form has continued to evolve. Others are of more recent history, such as the school and the factory, though they too continue to evolve. Other developmental environments are of evolutionary history, though of time-limited duration such as the evolving home nursery environment, and holiday gatherings. Some are characterized by institutionalized structures, such as those we have mentioned; others locate their ecologies in transitional domains, such as the street gang; and others locate themselves in the interstices, such as the floating crap game.

We see as a goal of the contextual developmental perspective, a detailing of these various environments, and the charting of the range of developmental trajectories through the varying combinations of developmental environments. For example, the developmental trajectory from the home, to a grandparent's house, to various service settings such as clinics, to nursery school, to a peer group, and so on. Such a chart would represent a developmental topography, and would be a graphic representation of an individual's developmental history.

In seeking to develop adequate topographies, it is important to recognize that contexts are hierarchically embedded, one within the other. This feature of hierarchy is present both for the interactional as well as the structural contexts. Examples of hierarchical embeddings are illustrated in Figure 3. For the structural context we may note the embedding relation of a school to a class room to a specific seat at a particular table in the room; similarly, a house to a specific room to a specific location within the ecology of the room.

As with the structural context, the interactional context is to be identified with the move from the structured school population to specific subgroups down to a specific individual relationship within a dyadic system, such as a teacher-child system. Such interactional embeddings can be exceedingly complex. To illustrate this on an elementary level, we may note the development of the embedding interactional hierarchy in the family's transitions from a two person husband-wife system to a three person mother-father-child system, and thence the transition to a four person mother-father-child 1-child 2 system.

In coming to understand the relation between the socio-ecological environment and individual difference, we may note that child 1 is born into and develops in a different environment than child 2. When one hears the comment that two siblings are so different they seem like they come from different *families, one may answer that indeed all single birth siblings are literally born into, and develop in different families.*

We have noted that contextual developmental theory reveals the critical importance of the developmental issues of accessing and negotiated transitions. This issue is critical both from a general theoretical perspective, as well as specifically for the issue of handicap. For from the contextual developmental perspective, an individual may become handicapped, if for any

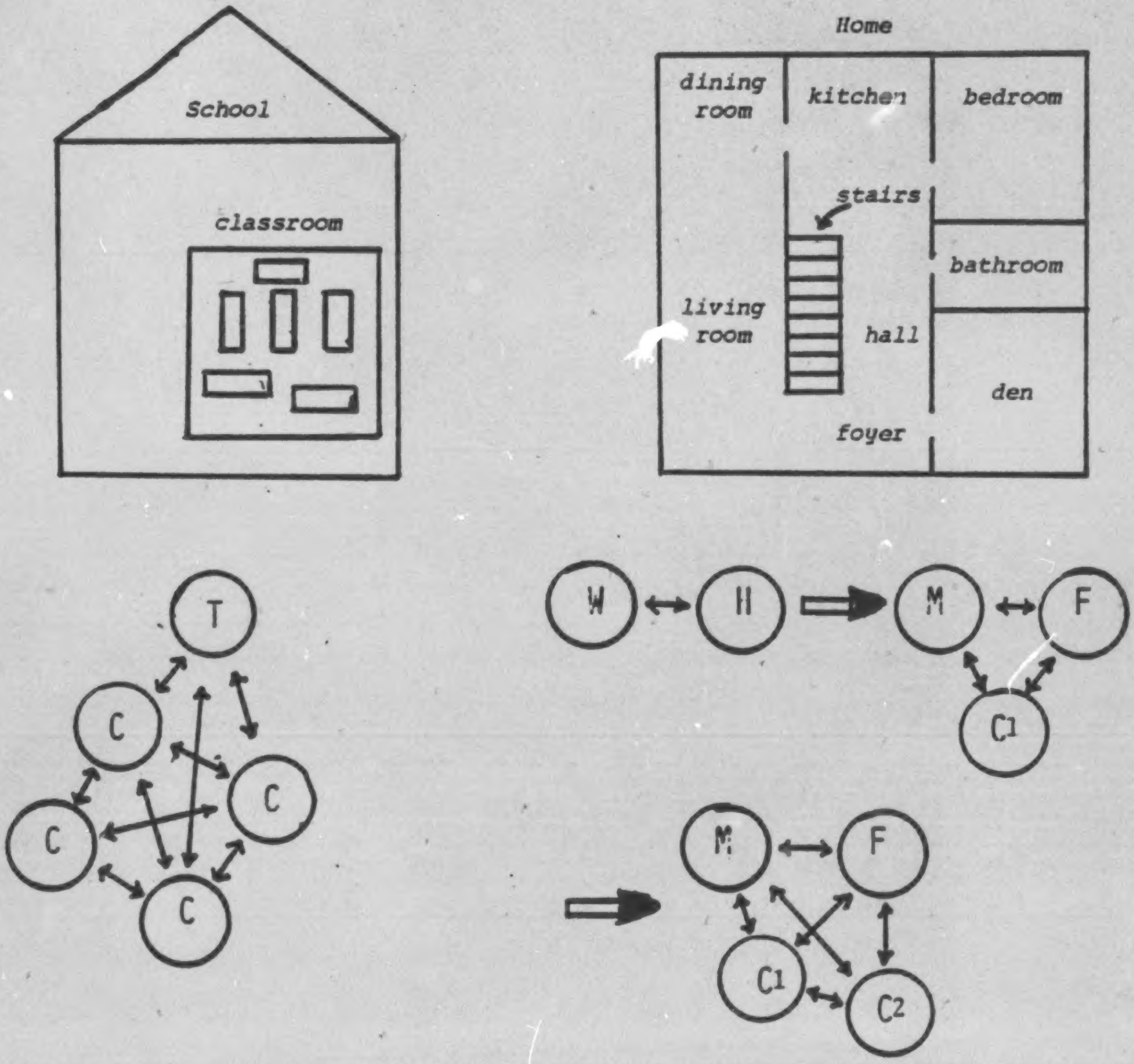
School
classroom
Home
dining room
kitchen
bedroom
stairs
bathroom
living room
hall
den
foyer
T
C
C
C
C
W
H
M
F
C1
M
F
C1
C2

Figure 3. The embedded ecological and the interactional structures of two environments. Double headed arrows represent exchange process linkages, bold arrows represent developmental transitions, T = teacher, H = husband, W = wife, M = mother, F = father, C = child.

socio-ecological reason, access to developmental environments is diminished or precluded.

Access and primary and adjunct environments *Following Sullivan (1972) we may note that "Life begins in the primary group. The child is born into a world composed principally of materials and two people" (p. 10). Development would then be seen to be contingent upon the accomplishment of access and transitions between the primary family environment and, what we will refer to as adjunct environments.*

As we noted earlier, in many primate species the interactional rank of an offspring derives in large measure from its mother's rank. As Chance and Jolly (1970) note in reference to Japanese macaque societies: "rank in the society has its origin from within the female assemblies, where the dependent rank of the offspring is the point from where the infant is initiated into society" (p. 203). What is significant about this for our purposes, is that rank constrains developmental access. Those infants with a higher dependent rank are initiated into the center of the group's core; they have a wider range of interactions; they have greater access to more dominant males; and they experience a lower level of agonistic interactions. It is, thus, not surprising that offspring of differing rank develop to differing degrees of complexity. Chance and Jolly (1972) express this as a difference in behavioral repertoire: "those at the top have a fuller repertoire of behaviour capable of maintaining social relations, while those at the bottom are more liable to rely on avoidance and escape" (p. 203). Studies show (Itani, 1954) that transition to the central core is accomplished through the direct mediation of the mother. Likewise, transition into, and through the other developmental environments depicted in Figure 1 is negotiated through the direct mediation of the older members of those environments, and the indirect mediation of the mother. In these latter cases, the rank of the transition guide tends to match the dependent rank of the developing individual, thus again influencing that to which the individual will have access.

As final examples, consider first a human mother's negotiated placement of her child in a specific preschool class in relation to decisions about the characteristics of the teacher and the other children. On the other extreme, consider a Hispano-American mother from a barrio who is unable to provide access to the socio-ecological environments of Anglo society (Mercer, 1976).

Let us conclude this section with a discussion of an evolutionary transition: a transition which highlights many of the themes that we have been discussing.

The Transition from Weakness to Strength All kinds of men, living and fossil, belong to the hominid family. Together with the pongid family, the great apes and gibbons we form a super-family of the suborder of anthropoids of the order Primates. Our evolutionary history began when we diverged from the ancestral pongids between ten and fifteen million years ago. This process of divergence and the origins of hominid evolution began with our prehominid ancestors navigating a transition from a lush forested region to a very marginal zone of grasslands and sparse secondary tree growth. The new zone was a much more difficult one in which to conduct a way of life — the source of food was much less abundant and much less secure; the predation pressure was much increased. The demands of this novel and marginal habitat were an essential factor in the development of complex cooperative activities for hunting and care of the young: solutions to our adaptive problems that were determinative for hominid evolution. The continuing evolution of our ancestors' creative socio-cultural solutions to the demands of a marginal zone, set us upon our present course. The profound significance of this realization for our present subject may be appreciated in the following quotation from the anthropologist Grahame Clark:

> When the grasslands expanded greatly at the expense of forest, the anthropoid forebears of the surviving great apes maintained their hold on the diminishing forest tracts, whereas other, prototypes of the hominids, took to a more open life in the savannah. It is interesting to reflect that those anthropoids who by their superior strength were able to defend their hold on a familiar habitat only survive, whether as inmates of zoos or protected fauna in the wild, by grace of man, the descendant of those compelled by relative weakness to adapt to new conditions. This is a story sufficiently familiar in the history of biological evolution, but its relevance is still not always appreciated in our own society. (Clark, 1967, p. 15)

Little need be added to Clark's sensitive reminder. We need only recognize that strength in one environment does not guarantee strength in another, nor does weakness in one argue for weakness in another. Rather, as we manage our transitions through various environments we will experience ourselves functioning across the whole continuum, from relative weakness to relative strength.

In their original habitat our prehominid ancestors were, as individuals, relatively weak, and were displaced. In the face of the demands of their new setting, they literally banded together and began to accomplish the transition from individual weakness to cooperative strength.

It is in light of this realization that we earlier suggested that the characteristics of those with handicapping conditions when viewed as individuals in isolation were not unique to this group. In comparison to other anthropoids we are all individually weak. It is not in terms of survival as individuals that we should be judged, but rather in terms of individual contributions to a cooperative social system: a system that supports us all as we in turn contribute to it.

SUMMARY

After a long journey containing a number of side excursions we have come to that temporary halting place from which we may survey our progress.

We have sought to provide the materials and model systems with which to construct a view of man as a situated member of social and ecological contexts. A view which suggests that to understand adaptive functioning we must understand the contexts of functioning and development.

We have presented a picture of the individual as an open system, sustained and developing in virtue of his exchanges with his environments. These exchanges connect the individual to his environment and allow the individual to be modified and structured by the environment, while in turn modifying and structuring the same environment.

We have suggested that in order to establish and sustain exchange, work must be done. Members of a social system must work together to achieve, through interactive negotiation, the artful accomplishment of reciprocity of exchange. The form of the exchange processes will be constrained by the dynamic morphology of the individuals. Individuals may be seen to display unique patterns of sensitivities and preferred modes of exchange. To be successful, exchanges must allow for a negotiated matching of the interactants' sensitivities and preferences.

The negotiation of exchange is a situated process. It is situated within and constitutive of social and ecological contexts - together, these contexts represent the individual's environment. Environments organize and support conduct. All conduct is specific to environments, and coadapted to the structure of an environment. To develop new modes of conduct, and to increase the individual's complexity, access to new environments is required. Environments are characterized, not only by their own socio-ecological structure, but also by the structure of their accessing mechanisms to other environments.

With the presence of accessing mechanisms, transitions to new environments may be accomplished. As with all other developmental accomplishments, transition is a negotiated achievement. In particular for the young child, transitions into and exploration of new environments is accomplished with the aid of an attachment figure - a guide and a support.

Adaptive behavior and functioning arise when transition to a new environment is successfully negotiated, and are maintained when proper exchange with that environment is established. Continued development is contingent upon access to an everwidening range of new environments. In this specific sense, human development is a contextually situated process. Restrictions on access to developmental contexts will handicap development. Thus, while an individual's state may be in one or more ways compromised, to be handicapped is a characteristic of an individual's developmental pathway and not his state.

Specific instances of handicapped pathways will be considered in the following sections. The following sections will also give more substance and clarity to our socio-ecological perspective on adaptive functioning and development.

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PART II

SOME APPLICATIONS OF THE SOCIO-ECOLOGICAL MODEL OF ADAPTIVE BEHAVIOR AND FUNCTIONING

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OVERVIEW

While the "Gestalt" of the previously described model may be comprehensible, the unique form of particular aspects of the development of individual children in the early years may be more difficult to both describe and comprehend. Perhaps this is because what "normally" occurs is difficult to comprehend, since it is described differently by different individuals, each having their primary focus on selected aspects of the whole.

Nevertheless, we have attempted to point out specific referent points of particular facets that relate to the whole. We have described particular and selected theoretical perspectives as well as more pragmatic interpretations. What follows, therefore, is necessarily incomplete. The most prominent thinkers of our time have unhesitatingly stated the sense of incompleteness.

Under the assumptions of our previously described socio-ecological model, in order to understand adaptive behavior and functioning of individuals, we must also understand aspects of the particular contexts or environments in which those individuals interact, and the mutual exchanges that take place between individuals and that environment. Since environments do differ, sometimes radically, it seems important to point out aspects of certain environments that are commonly found when speaking of early childhood. Programs that actively attempt to negotiate an adaptive fit for each child with a compromising condition can be better understood within a common frame of reference.

When surveying the literature on specific categories of compromising conditions, it became apparent that there were commonalities across categories (subgroups), and that research and programmatic implications from one category had implications for other categories as well. Understanding the common needs of all children may help us to better understand why it seems necessary to concentrate even more on arranging and adapting environments and mutual exchanges for children thought to be "at risk".

To be more specific, research that Selma Fraiberg (1968, 1971) has done with infants having visual impairments does have ramifications for other *categorized subgroups as well. Recent research on Down's syndrome children, (Hayden and Dmitriev, 1975) as well as that reported by the Milwaukee Project (Heber and Garber, 1975) suggests that previously held assumptions may be erroneous, or at least incomplete. We are in an era of rapid change. It behooves us to question many of our commonly embraced assumptions.*

In making assumptions, in choosing frameworks and theories, in decision-making regarding all aspects of any kind of research or program, each of us is faced with personal choices. We must not be misled by the thought that the "experts" or other "research" will tell us the choices to make. We choose what we want to believe, from whatever bases we may be using, and sooner or later act in accord with those choices. Perhaps some of what follows can be seen as preliminary and brief information on which to base choices.

TRADITIONAL MODELS

Intellectual and Educational Attainment Models

In evaluating information about individuals in our society, at least two perspectives can be taken and incorporated into models. Lambie, Bond, and Weikart (1975) have called these the Deficit Models and the Nondeficit Models. These two models closely parallel our paradigms of ideal-type thinking and population thinking.

Deficit Models

From all deficit model perspectives, low performance, no matter how measured, is seen to be the direct result of deficits in the child. The following three perspectives differ in terms of source of deficit and in current thinking regarding reversability of deficit. All models evaluate behavioral differences relative to what is "normal". And all evaluations are based on value judgments about what is "normal".

Learning-experiential deficit model An assumption of "disadvantage" in terms of early learning and experience lies behind this model. It provided the theoretial basis for at least the following: "War on Poverty", Head Start Programs, early special education programs for "mentally subnormal" and other early preschool experiments (Lambie, Bond, and Weikart, 1975; Deutsch, 1962; Gray and Klaus, 1965).

Genetic deficit model Arguing that genetic differences among subsegments of the population account for differential performance among children and are irreversible, proponents of this position have done little more than inspire pessimism and inaction (Jensen, 1969). Earlier in our nation's history, "mentally defective" individuals were permanently consigned to separate institutions--a reflection of possible consequences of the application of this type of model.

Psycho-physiological deficit model Under assumptions in this model, a psycho-physiological deficit refers specifically to presumed physical impairments as a result of environmental conditions or accidents and not genetic predisposition (Wender, 1971). Included are such diverse conditions as: dyslexia, minimal brain dysfunction, malnutrition, etc. At least theoretically all can be prevented, and it may be possible to partially or fully compensate for them.

Nondeficit Models

Difference model From this perspective, problems that individuals or subgroups encounter with particular situations are a result of "differences" and not "deficits." This difference model has particular appeal to those who support cultural pluralism (Torrance, 1974). In particular, those who have studied the cultural difference position in regard to language development (Baratz and Baratz, 1970; Cazden et al., 1971), would seem to uphold such a model. Proponents believe that no culture or subgroup is intrinsically "better" than any other, and the goal is to effectively interrelate subcultures and subgroups by helping all children to become competent and adaptive in a pluralistic society (Mercer, 1976). Using this perspective, it is easily possible to consider young children with handicapping conditions as being "different" without the value laden judgment of also being "deficient" (Carlson, 1975).

School-as-failure model The general school-as-failure perspective argues against existing forms of education for all children on the basis of education's over-all irrelevancy to the needs of both individuals and society and its attempts at homogenization of intellect and behavior (Illich, 1972; Postman and Weingartner, 1969). Schools are viewed as being insensitive to differences in children, and in fact, penalizing children for differences. There is some support for the notion that self-contained special education classes can be viewed as long-term "penalty" corners or boxes. The responsibility for change rests with the schools, and some quite different alternatives have been proposed (Holt, 1972).

Social structural model In this model, the responsibility for individual development rests with the general structure of society relative to demands and constraints upon the family, particularly during the early years. What may be radical changes in the possibly oppressive general life conditions of specific segments of society (particularly "the poor") are advocated (Stein and Susser, 1970). This latter model may be considered to fall somewhere between deficit and nondeficit models. An attempt to achieve a creative synthesis between these two types of models could prove a worthwhile goal to pursue.

Each of these models suggests a range of programs. In practice, programs usually draw upon aspects of several of the models. Nevertheless, a tendency for deficit models to persist can be seen.

However, the necessity for a closer look at other assumptions in order to meaningfully evaluate any aspect of planning and programming is felt.

Theories of Learning and Child Development

Three major streams in the evaluation of Western educational ideologies (romanticism, cultural transmission, progressivism) and the distinctive theories of child development associated with each of them (maturationistic, associationistic, cognitive) were described by Kohlberg and Mayer (1972). Based on observations of what actually happens in preschool classrooms, Weikart (1972) adds to the above three curriculum orientations (child centered, programmed, open framework). Perhaps the following very brief framework for categorization and classification can assist in understanding actual program implementations.

Romanticism, Maturationist, Child-Centered

In a stimulus-rich, affectively warm and child-directed environment, a developing, intrinsically motivated, curious young child grows, becoming "healthy and whole." Although many traditional preschools have employed this curricular approach, most early intervention programs have not.

Cultural Transmission, Associationistic-Learning Theory and Programmed Curricula

Diametrically opposed to romanticism, the above ideology grows directly out of formal academic traditions in which the primary objective of education is to communicate "facts," "the truths," "rules," "specific skills," and a "highly conventional view of the world." Motivation is largely extrinsic (reward and punishment) and based on learning theory (associationistic-learning). Basically, the work of "expert" educators and programmers is to provide specific task-oriented information, while keeping the individual motivated and attentive. Many programs from preschool to college exemplify this ideology.

Progressivism, Cognitive Development Theory, and Open Framework Curricula

In this ideology, the challenge is to create learner-appropriate environments in which all individuals actively engage in problem-solving. Development is viewed as emerging out of complex transactions with the environment between and through a sequence of stages. Support to the child is provided by facilitators, (teacher, parent, aide) not "experts," as the child learns to test hypotheses on how he/she thinks the world operates.

Frameworks

Again, it can be pointed out that any one program could incorporate facets of any of these ideologies and tautologies. They are neither mutually exclusive nor exhaustive, merely representative. In many ways there are similarities between the three theories briefly presented, and in MacDonald's (1973) description of the "three different human interests which are reflected in educational programs. These interests are essentially ideologies since they are statements of values as well as theories. MacDonald's system includes control interests, consensus interests and liberation interests" (Spodek, 1975, p. 70).

Administrative frameworks

These interests, as MacDonald describes them, provide a frame of reference in which to understand and categorize the various educational programs for the handicapped as well as any other educational program. It is this flexibility and adaptability which makes the MacDonald framework so appealing.

> Control The basic human interests have a language which accompanies them. Wherever such terms as objectives, systems, (or delivery systems), quality control, efficiency, effectiveness, criterion referenced evaluation, etc., are used to the exclusion of others, it is clearly in the interest of control. The control syndrome operates with a clear idea of preordinate goals and evaluation procedures and organized experiences in light of goals and evaluation. Most individualization is in the interest of control.
>
> Consensus Consensus interest oriented programs are much more prone to talk about immersion or initiation into the important areas of our culture. They further quite frequently deal with activities and goals or purposes rather than specific objectives. Activities are usually groups of common ones. Competency is certified by the completion of courses and programs at an acceptable level and standardized tests or other expert validation are utilized.

> Liberation Liberation interest oriented programs talk more about ranges of alternative experiences from which purposes which reflect and develop needs and interests are continuously emerging. Student choice is central to these proposals. The organization of time, space and resources is considered fluid and flexible with considerable emphasis upon self direction and self evaluation. The adults are talked about as guides, helpers and resource persons. Human relationships are seen as A with B rather than the more authority oriented A/B relationships in the other two. This kind of program is often referred to as personalized (in comparison to groups or individualized). The basic distinction between personalized and individualized is the recognition of the student as a moral agent (i.e., chooser of goals and means to achieve them). (MacDonald, 1973, p. 5).

The critical argument of Spodek's article is that the MacDonald framework is the "most productive." The Hill (1969) framework of phenomenological and behavioral views of man and Kohlberg and Mayer's (1972) ideological strains (romanticism, cultural transmission and progressivism) may seem to oversimplify commonalities and differences.

Intervention frameworks

Salomon (1971) describes four models upon which are based certain types of treatment or intervention programs. In general the application of the models has been to the public school setting. This is important in that the child from birth to age five may "fit" any category or model primarily in relation to one specific environment.

The Remedial Approach

This first of the four models is the most commonly practiced one. In remedial programs and special classes,

> the assumption we make is that some important ingredient of knowledge is deficient or missing, and no progress in learning can be expected unless the deficiency is overcome.
>
> Underlying this approach is a hierarchical conception of knowledge, of learning and consequently of instruction. It is closely associated with the work of Gagne, Ausubel and others (p. 3).

Salomon continues:

> For Gagne, instruction is the piecemeal addition of knowledge. Knowledge becomes organized into increasingly more complex hierarchies of capabilities. Through his method of task analysis, he defines an objective and then asks: what is it that the learner needs to master prior to that, and in what order should it be given to him, so that there will be maximum vertical transfer? The basic element in this approach is that the learner begins as a blank slate: what is learned is an imprint of cumulative effects that experiences

> *make upon it (Shulman, 1970). Learning is basically connective and cumulative. As Gagne puts it: "The child progresses from one point to the next. . . . He learns an ordered set of capabilities which build upon each other in a progressive fashion" (Gagne, 1968, p. 181) (taken from Salomon, pp. 3-4).*

Since learning is an accumulation of experiences, the development of a task-specific capability becomes mainly a question of time. Aptitude, therefore, may be derived in terms of the amount of time required by the learner to attain mastery of a learning task. Salomon further states:

> *Thus, the provisions made for individual differences are mainly concerned with amount of time devoted to instruction, the number of "fillers" needed and the quantity of repetition. . . . In short, instructional treatments differ from each other in terms of time, specificity, repetitions, etc., but not in terms of modalities, content structure or method of presentation. The treatment designed for the low aptituder, i.e., the one with deficient subordinate task-specific mastery, is a remedial one. It makes up for these deficiencies and thus ought to bring the low aptituder to the level of the high aptituder (p. 5).*

The Bateman Model of the Diagnostic-Remedial Process is very closely allied to the above. Bateman (1971) states:

> *The diagnostic process is conceived here as a successive narrowing of the disability area examined until the exact problem can be pinpointed and a diagnostic-remedial hypothesis formulated which is internally consistent and well-supported by objective data. An hypothesis, so stated, leads directly to remedial planning. The remedial process is the inverse of the diagnostic process in that the initial focus is narrowed to the primary area of the disability and then gradually broadens (p. 297).*

Other models in the field of special education closely conform to the remedial approach. As common as this approach undoubtedly is, in the majority of cases it has been unsuccessful. As Mann and Phillips (1971) say:

> *The basic assumption underlying the development and utilization of fractional approaches is that human behavior may be successfully separated, as it were, into specific entities, units, or functions; these being essentially independent and capable of being individually evaluated and/or exercised. Advocates of fractional approaches appear to be proceeding as if this assumption were a fully demonstrated verity (p. 23).*

In this and other articles (Mann, 1969-70), Mann's critical comments include references to the approaches advocated by Bateman, Lindsley, Kirk, Frostig, Ayres and others. Persuasively, Mann contends that the research evidence to date does not justify a strong remediation position.

The Inducement Model

Unlike the previous model, this approach is neither very common, nor is it extensively studied. It appears to apply to those cases in which one desires to induce specific thought processes, problem solving or epistemic behavior. Salomon describes this model:

> *(it) is derived from the work done with uncertainty (Berlyne), mismatches (Hunt), disequilibrium (Piaget), or surprise (Charlesworth). The basic element in all these lines of research is that adaptive learning is propelled by disturbances, i.e., by a failure to assimilate new information into existing structures (p. 6).*

The most important difference between this approach and the first is that in this approach the emphasis is on incompatibility as a stimulator of thinking, which in turn, leads to adaptive learning (Gagne, 1968).

This approach, when studied carefully, seems to be at odds with the current vogue of programmed instruction, small sequential steps, success experiences, etc., that share the treatment spotlight at present (Carlson, 1974).

The Preferential Model

When an instructional treatment is designed to match a child's capabilities it can try to make up for deficiencies (the first model) or force the child to think (the second model). It may, however, also try to capitalize on what the child is already doing. Thus, it exploits available strong points in the child's characteristics (Carlson, 1974). This becomes possible only if there are at least two alternative modes, methods, or modalities through which the same objectives can be attained. Such is not implied in the first model.

Results obtained with treatments based only on the visual or verbal modality were disappointing. Salomon explains. . .

> *The reason may well be that a preferential approach, in which one capitalized on the stronger aptitudes, specific aptitudes or task specific capabilities are poor predictors.*
>
> *To be able to capitalize on and make use of an existing aptitude it needs to be general enough so that the learner can use it in processing the new information. If it is not general verbal or visual ability, but more task specific, there is little you can capitalize on. Rather, a more stable attribute, perhaps even a "style" may appear to be more helpful in the present case.*

> *. . . There are a few additional studies, all of which show that when the treatments are expected to capitalize on the learner's strong sides, these need to be some relatively general attributes (pp. 12-13).*

De Hirsch, Janski and Langford (1966) noted an interesting facet of their two year study of children with reading problems. They were able to see certain consistencies in the subject's approach, or continuities in behavioral "styles" over the two year period the first and second graders were studied. Their "Group III" consisted of youngsters they saw as "happy-go-lucky, but disorganized and distractible." They felt that defining such "styles" may be the key point in planning a remediation program. Studies of temperament in infants (Thomas, Chess and Birch, 1968; Chess, 1973) indicate a similar ongoing phenomenon relating to "style."

The Compensatory Model

The distinguishing feature here is that treatments try to compensate for each learner's deficiency by furnishing the mode of presentation that the learner cannot provide for himself.

In this model, treatments make available those bits of information, techniques, images or formulations which some learners cannot provide for themselves. However, to compensate, the deficiency must be quite specific. Thus, unlike the preferential model, the model can be based on measures of specific aptitudes only.

Salomon's four models undoubtedly do not encompass all of the ways in which we may view treatment. They do touch on some important aspects that have been addressed in the field thus far.

This overview has touched briefly upon traditional models that have been and are used in the design, implementation and evaluation of educational and therapeutic programs for children. In many cases, the objectives of the programs were met; in many cases they were not. The point of this discussion is not to single out any program, belief system, philosophy, etc. as being "best." Rather to illustrate that they do exist and may provide an entry into an acceptable alternate pathway for very young children identified as being "at risk" for developing without some form of mediation.

Given a brief background and orientation to traditional models, let us look more closely at the application of our Socio-Ecological Model of Adaptive Behavior and Functioning to the very early years.

SOCIO-ECOLOGICAL MODEL

Presenting State: Characteristics of the Individual

In order to discuss the individual's characteristics at a particular point in time and as an aspect of situated functioning, it seems appropriate to propose the idea of presenting state of the organism as encompassing those individual patterns of values of variables that can be measured. By this definition we indicate and emphasize the dynamic nature of an individual at any locus in time in any given context as a multi-leveled performance.

An adaptively functioning individual represents a coherently organized system, functioning synchronously on many levels: the molecular, the organelle, the cellular, the organ, the organ system, the organismic, and the socio-ecologically interactive. The individual as system is a dynamically organized process continuous through time: a performance. The integrity of the individual depends upon the integrity of each level of organization, and the integrity of the functional connections between the levels.

Our categories of various disabilities, or compromised states, run the gamut from a compromised molecular level to a compromised socio-ecological level. A particular emphasis in our perspective is to consider all levels of organization as equally significant; no one level is more "basic" or "real" than another. A molecular poison works by compromising the functional connections on the molecular level. The effects of a disruption on the molecular level radiate upward to compromise the integrity of functioning on higher levels of organization. By the same token, compromising the functional connections on the socio-ecological level compromises functioning on that level, and also radiates downward to compromise functioning on lower levels of organization, down, in fact, to the molecular level.

An individual is a resilient, though delicately balanced, multi-leveled system. To consider activities on one level of organization as the unidirectional cause of activities on another level, e.g. reducing behavior to molecular activities, is to misunderstand the intricate and complex, bidirectional feedback relations linking all of the levels into a coherent whole.

Our notion of "state" refers to the state of activity on all levels of organization from the molecular to the socio-ecological. On each level of organization, functional variables are identified. At any given point in time, each of these variables has an identifiable value. An individual in context may thus be represented by the particular pattern of the values of these variables. This particular pattern of the values of the multi-leveled variables constitutes the individual's presenting state.

Certainly the concept of "state" is not, in and of itself, new. Numerous investigators have been intrigued with the concept. Escolona, Leitch, Yarrow, Brazleton, Kris, Prechtl, Chess et al., Haar et al., and Lewin are but a few who have attempted to delineate state. Several definitions have consequently arisen. Most have attempted to differentiate the psychological from the physiological. It seems, perhaps, an appropriate and interesting question for the clinical laboratory. However, in the socio-ecological context of situated functioning, it seems a moot point. Certainly "state" as previously defined in this paper is an aspect of not only the individual's behavior, but the response of the environment as well. By proposing state as "individual patterns of measurable values of variables", it is possible to incorporate as part of the whole, all the aspects thus far delimited by the above mentioned investigators.

In the medical professions, the term "presents" is employed when describing a child as he is at that point in time. In like manner, the use of "presenting state" conveys the elements of (1) time relevancy and (2) accumulation of all past experiences as represented by the present values of variables in a given context. The dynamic quality implied by "presenting state" allows for the sampling of aspects of behavior, but only when understood and interpreted as a situated function of the ongoing relationship between individual and environment.

Another element within the dynamic "presenting state" is that it allows what is to exist without causative factors. Causation will be important if an appropriate mediation or intervention is to be pursued but causation in and of itself is not the only determinant of mediation or intervention. A description of the individual can be offered without cause, and therefore, without the guilt, depression, anxiety, and other concomitants on the part of the individual or the systems to which he belongs. Such understanding and use by appropriate systems allows an inventory to be taken and some decision to be made as to whether or not any facets of a presenting state could benefit from changes to allow for participation in wider contexts. To draw these threads together, we would suggest that, the "presenting state" can be viewed as an aspect of situated functioning at a point in time within a given context, and as an accumulation of all interactions past and present.

In contrast to current limiting assessment techniques applied only to the individual child, an assessment of presenting state as here proposed would attempt to elicit the "best possible response" (as Brazleton supports in his neonatal assessment, 1973) to any variety of stimuli presented in a variety of ways appropriate for that presenting state. In addition to the individual's "best responses", a thorough assessment or accounting of the context which elicited the best response and the interaction which supported the best response is essential, especially in terms of replicating those "best responses" necessary for the further development of measurable values of variables.

In addition, some assessment of the developmental issues as presently negotiated by the individual with that presenting state is needed. Attachment, communication, locomotion, and active manipulation, proposed as those fundamental issues for the preschool child, need to be examined as aspects of situated functioning and as interactional processes.

Developmental Issues

In the course of human development, a young child is seen to progress in certain predictable ways. Whether these ways are seen as stages (Piaget, Sullivan), crises (Erikson), issues (Sander), levels of attainment (Gagne, Hewett), or otherwise, the progression does transpire.

From the framework of a socio-ecological model, it is possible to draw from many theoretical structures and present that which seems necessary to be resolved for any individual to both survive and develop. In looking at adaptive behavior and functioning, it seemed most appropriate to use Sander's (1969) concept of "issue" as being that which needs to be resolved in a negotiation process.

In considering the child from birth to five, we have chosen to present four developmental issues. As mentioned previously, these issues are attachment, communication, locomotion, and active manipulation. These issues are to various degrees intertwined, and they are issues that cut across all developmental stages, taking on different forms and differing degrees of salience during different stages. In their cross-stage nature and their adaptive significance, these issues are considered to be developmentally essential.

Attachment

The developmental issue of attachment has been addressed in varying ways by numerous scholars. Amongst the most prominent are: Bowlby, Mahler, Freud, Rutter, Cassel and Sander, Ainsworth, Bruner, Rheingold, Maccoby and Masters, Sroufe, Baumrind, Lamb, Cairns, Bell, Harper, Schneirla, Spitz, Harlow, Skeels, Sullivan, Brody, and Escalona.

For the infant and very young child, there is usually one fundamental attachment relationship with a primary caregiver, generally the mother. If the attachment relationship is in actuality as critical as it appears to be from an analysis of the literature, then the absence or inadequacy of an attachment relationship in the first eighteen months should have serious consequences for the individual's adaptation to ever widening contexts.

The presence or perception of a compromising condition at birth or shortly thereafter should surely constitute an "at risk" condition for establishing and maintaining a mutually beneficial attachment relationship. Indeed, the literature is well documented with examples of very young compromised children who were rejected by one or more members of the primary system. And it is the primary system which is critical. A child's inability to respond according to the expectations of significant others is, in some cases, a life threatening situation (e.g., failure to thrive syndrome). In other cases, the consequences may be less immediately serious (i.e., survival prolonged) but more serious in terms of development. The literature on children with visual impairments (Fraiberg) and "difficult" infants (Thomas, Chess and Birch), exemplifies this phenomenon rather well.

Initial attempts to assess the degree and quality of this fit have been done by Haar et al. (1964), Easton and Blau (1963), and Zimblick and Watson (1953).

The important point in this brief discussion is not the presence or absence of a compromising condition, but whether the presenting state of the individual child can be matched to the presenting state of the primary caregiver sufficiently well so that the developmental issue of the establishment and maintenance of an ongoing attachment relationship can be achieved.

The functions of attachment

Sander (1962) found successful negotiation of developmental issues to be contingent upon the presence of at least some minimal degree of mother-infant attachment. Sander (1972) considers that the outcome of these attachment mediated negotiations is influential for the course of the child's cognitive growth. He argues that the interactional setting is the environment in which individual organization emerges, and thus the form of the individual's organization will,to a significant,degree mirror the character of his interactional setting. In fact, Sander's sequence of issues may be properly viewed as a sequence of skills--skills acquired by the child in the process of, and through the mediation of, his negotiations with the mother. Thus,it would follow that the dyad's success in the resolution of these issues should be predictive of the child's level of competent organization.

A complementary way of viewing the attachment relationship is in terms of the functions which it serves for the developing infant's exposure to the informational novelty and the informational structure of his environment. The significance of these functions has been most clearly noted in studies with infra-human primates. In the following discussion, based primarily in reference to primate studies, we hope to distinguish four differing, though interrelated, functions subserved by the attachment relationship.

First Function: Locus of support-pivot We will refer to the first function of attachment as the locus of support-pivot function, a notion closely related to Ainsworth's (1964) idea of a secure base. This function of the attachment relationship, the provision of a locus of support for the infant's ability to expose himself to novelty, finds support and example in the work of Harlow and his colleagues.

In the case of isolate, surrogate reared rhesus monkeys, exploration of strange surrounds takes place from the locus of the surrogate, in constant relation to the surrogate, and does not take place in the absence of the surrogate (Harlow, 1961). The surrogate thus functions as the pivot around which exploration takes place. As a further example, R. Hinde (Hinde, 1969; Hinde and Spencer-Booth, 1967) has demonstrated that short-term separations, lasting up to six days, of a rhesus infant and its mother have the effect of eliminating exploration during the period of separation and depressing its exhibition for considerable periods following reunion.

This function of attachment has been observed not only for primates, but for the many species of vertebrates. This has led King (1966) to suggest that this is a general function of "mothering" in higher vertebrates: "among birds as well as mammals, the presence of the mother reduces fear of novel stimuli and provides the assurance necessary for exploratory behavior."

A simple picture of a young child in a doctor's office may serve as an example of exploratory behavior contingent upon an appropriate attachment relationship as a locus support. Some very young children come into a physician's office diligently hanging onto their caregiver, usually their mother. In no way will they release their vise-like grip. Even taking off outer clothing becomes an almost insurmountable barrier. (Check the number of coats on mothers next time you're in a doctor's office. . . .) Over time however, and with only mild to moderate activity present in the room, many children will settle down on mother's lap, some will get down and explore the area in close proximity to mother's feet, while a very few may venture further into the room. Of course, there is always the one hearty soul who walks over to the crotchety old man, (huddled in a corner seemingly paying no attention) and cheerily says "Hi!" However, with any new and unexpected event, such as the entrance of another patient, the child who had begun to explore will beat a hasty retreat back to mother.

The simple explanation that a child is "shy" is often given. Another, more complex explanation is that very young children delight in exploring new and safe environments. The presence of a caregiver to whom the child is attached assures the child that this new environment is both physically and psychologically safe. The individual with whom the young child has established an attachment relationship can now provide the locus of support for the vulnerable child to expose himself to a new environment. By performing the very valuable pivotal function, the attached caregiver assures the child that perceptual and ambulatory exploration of the new environment will be supported, and will not be unnecessarily stressful.

Second function: supported navigation-transition We consider that there is another, a second and more complex function, subserved by the attachment relationship. This function has been alluded to previously and is of particular interest in light of the developmental importance which we place upon successful transitions. This second function is the support provided by the attachment relationship for an individual's navigation within contexts and transitions between contexts. The importance of this function rests upon our suggestion that the continuing development of adaptive functioning is as much a product of previous transtitions into and functioning within diverse contexts as it is a prerequisite for future transitions into and functioning within varieties of contexts.

A child who has experienced significant difficulties in previous transitions into developmental environments may have been compromised in at least two ways. First, the skills necessary for successful transition and navigation may not have been acquired. Second, if one is unable to successfully enter and navigate within an environment, one would clearly be unable to "take full advantage" of developmental environments and, thus, would be unable to achieve an adaptation to that environment.

This function of attachment is suggested by the following from the primatologist Poirier (1972):

> For all primates, the mother is not only the central feature of the social and physical environment, she also serves as the infant's locomotor organ and neocortex and so determines the nature of the basic socialization environment. The neonatal primate clinging to a mobile mother forms an attachment not only to her per se, but through her to virtually her whole ecological-social setting.

The second function, then, can been seen as the supported navigation-transition function of attachment. As noted previously, supported transition provides the basis for the development of transition skills and for individual exposure to the developmental challenges posed both by the transition itself as well as the new environment. Such challenges provide the developmental context for increasing one's informational complexity and/or developing new repertoires of behavior. In addition, the new environment may serve as an attachment locus for further exploratory and interactive behavior.

It seems clear that the structural and interactive impediments experienced by the handicapped in a given society stand in the way of supported transition, and, thus, further delay the necessary developmental outcomes of transitions. It is this that we consider to be the primary "injustice" of our societies' presently constituted socio-ecological structure.

We may define two further interrelated functions of attachment deduced from the work of a number of primatologists (Dolhinow and Bishop, 1970; Loizos, 1967; VanLawick-Goodall, 1965).

Third Function: privileged setting for combinatorial play The third function of an attachment relationship derives from its relation to combinatorial play. From both an evolutionary and a developmental perspective this function is of major import. As noted by Bruner (1972), "In order for tool-using to develop, it is essential to have a long period of optional, pressure free opportunity for combinatorial activity." In order to be "pressure free" this activity must occur in a privileged setting: a setting buffered by the presence of an attachment figure. In young primates, combinatorial play has been found to be exhibited most frequently in close proximity to the mother or other important attachment figure, and to occur only in certain contexts during certain periods of the day.

Fourth function: privileged setting for skill mastery A fourth and last function of the attachment relationship concerns the mastery of complex skills by the young. Deriving from the work of the primatologists referred to above, it appears that the mastery of complex skills is dependent not only on the opportunity for extensive observational learning, but also upon its occurence in the privileged setting of the attachment relationship. Van Lawick-Goodall (1965) notes how a particular chimp's loss of his mother at age three resulted in his never coming to master certain complex tool using skills practiced by other members of this troop.

We would suggest that there may be additional functions served by the attachment relationship. Similarly, our other developmental issues are considered to serve a variety of functions, only a few of which we have been able to articulate.

Communication

In order for members of a system to interact with one another to provide for each individual's survival and development, some form of communication must take place. In our society, we have emphasized verbal communication, but we must not overlook the equally essential (and possibly for young children more appropriate) nonverbal, bodily communication systems.

From our perspective, communication refers to the exchange processes linking systems on the organismic level. As such, communicational linkages are as essential for survival and development as linkages on any other level of organization. Communication links the developing person to his human environment.

In the very young child, linkages with the environment are clearly critical to survival. Examples of linkages that we often focus our attention upon are: eye contact, babbling, crying, smiling, etc. Few of the indices we look at occur in isolation. Almost all occur within an environment in which mutual exchange processes are taking place. Eye contact on the part of a child with another individual elicits a response, as does crying, smiling, cooing, etc. These communication linkages are critical to the young child's survival and development.

For increasingly complex systems of communication to occur there must be a mutually beneficial communicative system present. This usually happens, although what happens, when it happens, and under what circumstances is incredibly diverse.

The issue which must be resolved for every developing organism and his/her primary and adjunct systems has to do with the expectancies and abilities of the members of those systems. If the child is judged less capable of responding as measured against the expectancies of the systems, then the systems, including the child, are "at risk" for resolving this particular developmental issue.

Good examples of "at risk" conditions can be found in the literature on young children with speech and language and hearing impairments, as well as the literature on children with vision impairments and retardation.

Locomotion

For the very young child, the ability to navigate a transition from one context to another seems to be critical. In considering the notion of adaptive behavior and functioning, such transitions, when supported and enhanced at appropriate times, are essential to a child's survival and development.

The word "locomotion" means in this context the process of navigating from context to context. It is in contrast to the word "ambulation" which seems to mean the physical movement of the body within and between contexts. Most young children do learn to creep, crawl, walk, run, hop, etc. -- all of which fit into the concept of "ambulation". But hopefully locomotion is associated with a larger concept: one that implies involvement in, but not necessarily responsibility for, movement within and between contexts.

To clarify this point, it is helpful to have an understanding of the developmental issue of locomotion as seen from the Hopi Indian perspective. In that culture, the infant is bound to a cradleboard and carried from place to place by an older relative, the mother in particular, for the first few months. But as Dennis (1940) notes:

> Hopi infants begin to walk about six weeks later than do the groups of American infants. . . the cradleboard is not responsible for this difference, for Hopi infants who have been kept on the cradleboard walk as early as the infants of Hopi families who no longer bind their children. (p. 187)

Thus it can be hypothesized that the child need not have responsibility for navigation in order to be able to resolve the developmental issues of cross-context locomotion. This becomes of critical importance when we discuss very young children who are "at risk" to be able to take on unsupported navigation. For example, very young children with the following disabling conditions may not be able to move about unsupported physically or socially: cerebral palsy, spina bifida, congenital hip dysplasia, etc. They are dependent upon other people and other structures to provide them with the necessary experiences to negotiate the issue -- primarily by ecological adaptation.

Just how significant is this developmental issue? There have been some very strong proponents and advocates who have ascribed importance in varying ways. Noted among these are: Fay (1955), Ayers (1961), Barsch (1967), Bayley (1935), Cratty (1964), Frostig (1970), Kephart (1966), and Shirley (1931). In general, they support the theoretical position that the child becomes an active explorer by means of certain developmental processes that proceed in an orderly, acceptable and generally sequential manner. Certain patterns of progressions are apparent: cephalo-caudal, proximo-distal, mass to specific, gross motor to fine motor, maximum to minimum muscle involvement, orderly development, and bilateral to unilateral (O'Donnell, 1968). From our perspective, locomotion takes on a particular importance inasmuch as development is considered to result from and be evidenced by increasing complexity of functioning in ever more diverse contexts. Hence, locomotion between and within contexts is essential for development.

Attendant upon and interactive with the motor components previously described are some less well-differentiated constructs appearing to relate to the issue of locomotion. Body image, laterality, directionality, posture, and coordination are words used variously to describe certain aspects of a child's development. These constructs are more apt to be judged from an "appropriate-inappropriate" model than the previously mentioned patterns. Each, however, seems important for the contribution to a greater sense of self in relation to other aspects of the environment. Much of the literature contains references to constructs such as body image and laterality (Benton, 1959). Many of the references focus upon improvement of these constructs in young children (Kephart, 1966; Frostig, 1970). There appears to be some concern with the association of remedial aspects of specific programs with the improvement in measures of these constructs (Cratty, 1970).

In any event, it is extremely important that the child take an active part in exploring his environment and negotiating the transitions between environments. The negotiated transition must be supported and attended to by members of the systems of which that child is a part.

Active Manipulation

Important to most developmental theorists, but critical to the Piagetian framework is the notion that the child is an active participant in life.

Particularly significant in the early years, the child learns about himself and the environment through a series of sequential activities which are most easily observed in the sensori-motor stage.

Through active circular processes directed both to himself and the environment, the child actively facilitates the processes of assimilation and accomodation. The manipulative part of the child's processing of information acquired by activity at first takes the form of sensori-motor manipulation, later incorporating processes of symbolic manipulation.

In physically manipulating himself and the environment, the child engages in such observable behaviors as: reaching, grasping, pinching, poking, crawling, walking, dumping, hiding, sitting, etc. All behaviors are considered to be predictable and to occur in a sequential order. Clearly, such behaviors are given a great deal of importance both by the child and others, especially the members of a primary system.

The symbolic (and perhaps more "cognitive") part of the child's manipulation of himself and his environment has to do with attaching meanings to the activities in which he becomes engaged. The meanings form a developing system derived by the child in situated interactions with the other members of the primary system, and later the adjunct systems, to which he is attached. The meaning is usually attached in an atmosphere of mutual trust (Erikson, 1963; Sullivan, 1953, 1962). The trust and meaning system are critically consequential in later development.

Active manipulation at both the physical and symbolic levels includes distinguishing reality from fantasy. To adaptively achieve this end, the child's major strategy is play. Play behavior in terms of importance to the child cannot be overemphasized.

As language develops and the child is learning to communicate, play behavior assumes more importance as it facilitates social-emotional growth and is:

> the major single means of expression within the child's control and is an important outlet necessary for a health emotional growth and development. (Tait, 1972, p. 53)

"The major single means of expression within the child's control" is critical to recognize. For a child to become autonomous (Erikson, 1963) *it is essential that he feel he is the major determinant. Hence it is critical to watch and/or facilitate the play behaviors of the developing child with an adequate understanding of the sequence of events and interesting concomitants (Greenacre, 1959; Smilansky, 1968; Griffiths, 1935; Lazier and Sutton-Smith, 1970; Lowenfeld, 1935; Almy, 1968).*

Parten and Newhall (1943), through observations of children two to five years old, have formulated six classes of social involvement during the early years. They are: 1) unoccupied behavior, 2) solitary play, 3) onlooker behavior, 4) parallel play, 5) associative play, and 6) cooperative play. Other authors have discussed similar stages or classes (Erikson, 1950; Hartley et al., 1952; Peller, 1954; Piaget, 1962; Herron and Sutton-Smith, 1971).

During unoccupied behavior, the child watches whatever is of interest at that point in time with limited social involvement. In solitary play, the child acts alone and independent of others. There is no apparent interest in what other children are doing as the child concentrates on his/her own activity.

Onlooker behavior, like unoccupied behavior, involves the child observing other children playing at or with something of interest, but differs in that onlooker behavior consists of a more sustained interest with some form of communication involved. Unoccupied behavior and onlooker behavior occur less often than solitary play and parallel play.

Parallel play and solitary play are still independent play, but in parallel play the child plays with materials similar to those used by other children in close proximity. The child is playing alongside other children, but not yet "with" them.

In associative play, the children engage in the same activity, but there is no attempt to divide play tasks nor is the activity organized. In this type of play behavior, children play as they wish without surrendering their own interests to the group. Play at a water table or in a sandbox is often associative rather than cooperative.

Cooperative play has at its base a purpose, such as competing to reach a goal, some type of formal game, or an organized "dramatic play" activity Here, there is organization of a small or large group usually with control in the hands of one or two individuals, either children or adults.

A critical issue for the developing child concerns his testing and continual revision of his symbolic hypotheses about the meaning of experience. This issue is, at base, a concern with differentiating fantasy, hypotheses which are only partially adequate, from reality, hypotheses which are adequate to adaptive functioning.

To understand the process by which this takes place, we must consider the intertwined functions of communication, active manipulation, locomotion and play.

As the child begins to function more actively in his environment, his communications with others begin to provide him with a symbolic system for the organization and representation of his experience. A basic characteristic of the child is to search for the contingencies in his environment, and then to symbolize the structure of his environment as he comes to know it.

The child is, of necessity, at first restricted to limited regions of his environments. In addition, as a highly vulnerable organism, certain aspects of his limited experience take on, from an adult perspective, a highly exaggerated importance. The consequence of these two factors is the necessary initial development of "fantastic" hypotheses about the structure of his world.

The processes through which these early fantasies come to be revised involves continual communication with adults, locomotion to and within ever-widening functional environments, and active manipulation and exploration of his environments.

Hutt (1970) has proposed a perspective on exploration as an attentionally guided process. The environmental parameters of complexity and novelty, in a secure context, elicit the child's active exploration. Hutt distinguishes two types of exploration: specific and diversive. In general, the former refers to repetitive, goal-oriented, investigative activities, and the latter refers to play activities.

Through these active exploratory activities, particularly the diversive play activities, the child can continually test and revise his hypotheses. Through supported access to novel environments, the data upon which to test and revise is increased. Through these processes of communication and buffered exploration in increasingly diverse environments, the child comes to revise his hypotheses and "distinguish reality from fantasy."

Defects in any of these aspects of the overall process will lead to defects and inadequacies in the child's representation and perception of reality. Such defects, if prolonged, become amplified and profoundly compromise the child's adaptive functioning. An overly "protective" home environment or a structurally segregated home environment are examples of environments "at risk" for a child's adaptive representation of reality. So also is an environment which effectively prohibits the child from exploring a fantasy world through play, in order to later internally distinguish fantasy from reality when it is indeed appropriate.

Environments and Topographies

Our socio-ecological perspective argues that to consider these, or any other set of development issues, in isolation from the environments of situated functioning is to irremediably compromise our adequate understanding of adaptive functioning and development.

An individual's environments of functioning represent, in Sullivan's terms (1953), his "necessary medium of existence." An individual's environments of functioning pattern that functioning, and give form to his developing structure. To "see" an individual, it is necessary to see him as connected to his environments. In addition, our most directly available, and pervasively effective level of mediation is mediation in the structure and patterning of environments.

In viewing individuals as connected to their environments, we distinguish environments, primary and adjunct, and the individual's developmental trajectory through environments--his developmental topography.

Primary System

The system into which an individual is born or is early-on located becomes that individual's "primary system" through which he/she receives support for survival and development. The primary system in the human may thus be the environment of the biological parents and/or siblings, a nonbiological nuclear family, or an institution. In whatever form, the primary system is the first system within which exchanges and negotiations of issues will occur.

That primary system is itself composed of a variety of presenting states, each with unique individual patterns of measurable values of variables.

These various state profiles have been mutually modified and adjusted. Some form of adaptation has taken place and some fit has been achieved.

Additionally, the system itself has measurable values of variables unique to it, and much richer than merely an accumulation of each member's presenting state. The system has survived and developed through negotiaton with other systems and some fit has been achieved. The primary system is recognized by its geographical community as a family unit with ties to social organizations and peers, work relationships with peers, and exchanges goods and services with community resources. It has attached to, communicated with, moved within, and manipulated various aspects of its environment.

As with presenting state of the individual, no separation of physiological and psychological factors seems practical or desirable. A description of the primary system's presenting state as an aspect of a context, with its historical and present features seems more feasible.

Varying types of family or support units have been described and analyzed by numerous disciplines in terms of societal functions, roles of members, SES, sibling variations, etc. Comparisons have been made to illuminate the critical differnces, desirable components and detrimental influences. A socio-ecological framework encourages a more dynamic interactional analysis of elements of primary systems as they emerge, relate to, and support not only each unique member but the system itself. Some of the elements which appear to have significance for a primary system in the support and development of an infant, toddler or preschooler are:

1. Attachment - both between individual members of system (Bowlby, 1969; Mahler et al., 1975) and to the primary system as a whole.

2. Snychrony - the "ebbs and tides" of individual members and the degree to which they coincide and provide balance to each other and to the system as a whole. Involved in synchrony are needs and needs fulfillment expectancies of the system and each presenting state within the system, the balance and flow of the parts and the whole.

3. Leadership - both task orientation and social emotional orientation (Mercer, 1976). Involved with this is the broader issue of communication between and among members, and between and among the primary system and other systems.

4. Congruence - the degree to which values of variables of individual members fit with values of variables of other members individually and the primary system as a whole. Congruence is also the degree to which those values of variables of the primary system are congruent with other systems adjoining it.

5. Flexibility - the degree to which the primary system is capable of responding to changed or novel situations. (Glasser and Glasser, 1970).

6. Plasticity - the degree to which the system can mold or alter itself around changed or novel situations (creative reorganization).

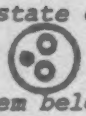
7. Extension - the extent to which the primary system has links (entry into and participation in) other systems (Pratt, 1976).

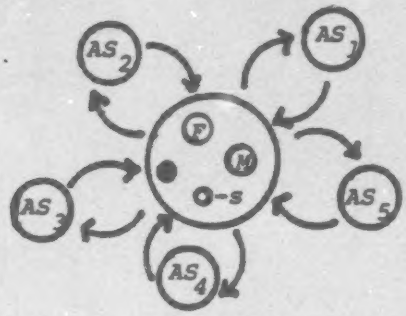
8. Balance - the degree to which the personal needs of system members can maintain a favorable balance with the demands of broader society. It is this balance that will allow the primary system to assert itself in a member's interest, even if a challenge must be made to the established order (Pratt, 1976).

It is hypothesized that if some accounting of these elements within the primary system could be made, then it may be possible to determine the ability of the primary system to support and promote the survival and development of a new individual's presenting state by negotiating appropriately and specifically the developmental issues of attachment, locomotion, communication, and active manipulation. Additionally, it is hypothesized that by analyzing these interactive elements it may be possible to mediate appropriate changes or modifications to additionally support the new individual's development, in a preventive sense, which will ideally and ultimately allow his/her participation in increasingly wider contexts. This documentation would seem to be particularly helpful if, upon analysis, an "at risk" condition was seen to emerge within the primary system.

Although the analysis of systems is indeed a complex and difficult assessment task, some interesting and relevant work has been done and it is reviewed by Hoffman and Lippitt (1960). The family life variables elucidated by a variety of investigators seem to be essential in the assessment of situated functioning of human behavior, particularly as it relates to adaptive behavior and functioning.

Adjunct Systems

If one conceives of and represents the presenting state of the individual as ● , then the primary system may be represented as  . Those additional systems to which individual members of the primary system belong may be viewed as adjunct systems. They are adjunctive in that they "add to" the support for survival and development of the primary system, and provide the additional environments necessary for continued development. The adjunct systems may then be represented as:



where AS_1 = mother's work environment
AS_2 = father's work environment
AS_3 = day care center
AS_4 = religious congregation
AS_5 = neighborhood peer group

The essential tasks of the primary system when a new member "presents" itself are to provide for his/her survival and development within that primary environment, and to provide for transitions to other environments. During the child's early years those other environments are the adjunct systems of which one or more primary system members are a part, or an adjunct system in which the new primary system member will acquire membership through primary system mediated transitions.

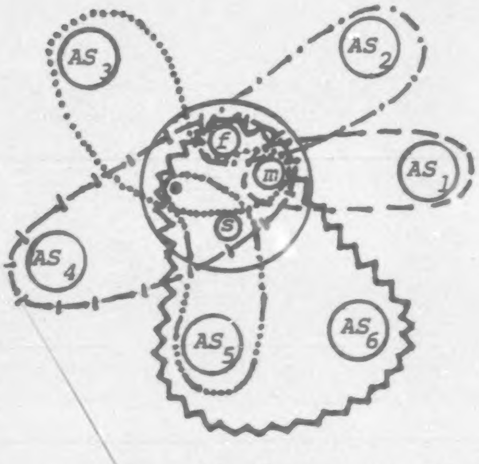
Participation in increasingly broader contexts is viewed as an aspect of the primary system's structure and function, not as a process separate or fully distinguishable from primary system functioning (Pratt, 1976). The primary system requires information and resources from adjunct systems to perform its tasks, accomplish its goals, and fulfill members' needs.

The provision by the primary system of access to participation in ever widening contexts, opens adjunct systems to the child. Adjunct systems then provide novel environments for the negotiation of issues specific to those environments. Adaptive functioning in new contexts enhances the individual's development, and provides support to the individual to move to broader contexts. Various adjunct systems will differentially affect the individual's developing structure and also his future developmental topography. This may be evaluated

1) in terms of the issues to be negotiated that are characteristic of that adjunct environment; and 2) in terms of the access-links of that environment to other adjunct environments. For example, one may contrast the characteristic issues and access-links of an elementary school with the characteristic issues and access-links of a street gang.

Topography

Having considered the presenting state of the individual, the primary system, and adjunct systems, it seems appropriate and useful to suggest a physical representation of these aspects of situated functioning so that one might present information relevant to decision-making. Various schematic and graphic representations are possible and numerous varieties have been suggested. The following seems illustrative:



● = presenting state of individual
ⓕ = father
ⓜ = mother
ⓢ = sibling
⦿ = primary system
AS_1 = mother's work environment
AS_2 = father's work environment
AS_3 = day care center
AS_4 = religious congregation
AS_5 = neighborhood peer group
AS_6 = public school

Topography is here viewed as a developmental map of a presenting state of an individual, the primary system, and adjunct systems within which members of the primary system participate and provide transition for other system members. As the systems, members, and influence of adjunct systems change through time so then does an individual's developmental topography. The topography provides a static representation of dynamic relationships within varied contexts at a specific point in time.

Not easily portrayed is the dynamic quality of an individual topography. It is important to keep in mind the time relevancy of membership within systems, and that some adjunct systems assume more importance than others at different times and in different situations. Perhaps a multidimensional, technicolor drawing with graphically represented adjunct systems responding by vivid tones to changing states of affairs might capture the dynamic nature of these relationships! Bound by realistic constraints of talent and technology, what remains is a two dimensional, visual representation of adaptive "fits" achieved through negotiations of issues between the presenting state of the individual, primary, and adjunct systems. This representation constitutes a "picture" of development. It indexes that which constitutes the individual's present developmental form, and provides the most adequate framework for predictions of future developmental form.

In this light, we would suggest that an individual's developmental topography functions as the basic framework of assessment. The concept of a developmental topography provides a formal structure in which to situate and relate all of that "additional" information that has often been collected and known to be important, and yet has found no home.

We would suggest that the developmental topography may come to function as a new, and more adequate and powerful, categorization device. An historical and context-sensitive device such as this would allow us to reveal new forms of cross-individual commonalities as well as differences. It would be a device which would at once both categorize and locate points for potential mediation. This represents both a goal and an ideal: when we can more adequately see the system of which a child is a part, then we will be automatically more able to effectively touch that system.

Mediation

For many years, the terms "intervention" and/or "treatment" were employed to discuss diagnostic/prescriptive procedures carried out by members of the medical or educational professions. Given the extremely critical situated functioning of the very young child within the family system, and given a more open framework for assessment of "at risk" condition, it seems more appropriate to use the term "mediation" to describe an on going process of mutual exchange between systems, in this case, the systems of the child and the systems of the mediators.

The term mediation also connotes an active preventive, in addition to the more traditional remedial approach. Preventive for alternate pathways are explored in order to facilitate adaptive behavior and functioning within several contexts. "Remedial" carries with it the implication of normative or "one right way" a child and/or family system can be expected to perform.

Few persons would argue that the family unit or primary system is of critical importance in the first five years of life. From an educational perspective, let us look at how this unit can be integrated into a mediation system.

Assumptions about the Parent's Role in Mediation

The role that parents play in facilitating learning appears to be gaining more visability, particularly in the areas of early childhood education and special education (Levitt and Cohen, 1976; Breslin and Marino, 1975; Horton, 1968). Recent Federal legislation mandates that certain aspects of parent involvement and dissemination be addressed in proposals for federal funding. These regulations as they affect "handicapped" children include: 1) provision that programs and projects be planned, developed and operated in consultation with and with involvement of, parents of children to be served; 2) assurances that parents have had an opportunity to present their views with respect to the program and 3) provision that policies and procedures for adequate dissemination of plans and evaluation be given to parents and the public (Federal Register, February 20, 1975, p. 7413).

In a related area, some programs for children identified as "abused" or at high risk for abuse also have strong parent components (Kempe and Helfer, 1972; Kempe et al., 1962). It would be wise to look briefly at the assumptions underlying "parent involvement" and various aspects of implementing such assumptions and mandates.

> Most early childhood programs make implicit assumptions about parental involvement that both influence and reflect their attitude toward parents as child-rearers. These assumptions may or may not be consciously recognized by the people responsible for program operations. (Lambie, Bond and Weikart, 1975, p. 273).

The range of assumptions that professionals make about parents is quite diverse. Lambie, Bond and Weikart (p. 274) propose that there are three such assumptions. We have added a fourth assumption based on analysis of recent literature and quite a few years of practical experience. The four assumptions are:

Mediator
↓
Parent

1. Parents require the benefit of expert knowledge and special training to raise their children effectively.

In this type of program it is assumed that parents need the benefit of "expert knowledge" to learn the essential skills of parenting (Rheingold, 1973). Although it is currently unacceptable to members of ethnic minority groups and others who would prefer to emphasize the values of diversity, widespread use in past and current programs is a reflection of the basic philosophy underlying traditional views of education. This approach to parents by mediators (educators) is both active and direct.

Parent ↔ Parent ↔ Parent
↕
(Mediator)

2. Parents know what they need as parents.

They are capable of resource gathering and decision making in ways that positively affect the outcomes for their children. Co-op centers in the U.S. and neighborhood playschool groups in England reflect this philosophy in their programs. Mediators serve as resources on request. This approach by mediators is essentially indirect.

Parent ↔ Mediator

3. Parents and educators can be resources for each other working as co-equals in determining the goals and practices of effective child-rearing.

> This position assumes that parents have the capacity to adequately rear their own children, but need support to overcome specific problems that are common to families in all sectors of societies but often more pressing among those with extremely limited resources. The child-rearing role of the parents is considered primary, and the task of persons (educators) working with the family is to provide assistance and opportunities for parents to achieve self-determined goals. . . . The role is difficult for educators because any tendency to subtly dominate the relationship must be strictly avoided if the program is to be successful. (p. 275 and 277)

This approach is both active and direct.

Parent ↔ Peer
↕
Mediator

4. Parents are instrumentalists and professionals are involved only through facilitators.

Facilitators are paraprofessionals who are members of a particular subgroup of which the family is a member. The professional is rarely in direct contact with the family. This assumes that the parent as an individual has the right to choose to act on certain information. The role of an educator as a participating member of society is to provide accurate, reasonable information and alternatives for choice under conditions of minimal stress so that change can take place. This approach, in contrast to the others, is active, but it is indirect.

With the exception of the second assumption, there are other, less explicit assumptions or beliefs underlying each model. Stated crassly, one is: "Parents oughta do a better job of raising their kids! After all, with all the problems we have in society. . . ." And there is every reason to believe this crass type of logic can lead one to at least part of a solution. All of us need and search for information at specific times (else why "Dear Ann Landers?").

The point of the fourth assumption, however, is that educators (or mediators) can never be totally successful in bringing about change if they operate from an "expert" or "co-equal" position relative to particular parents. Any educator or mediator has a particular role to play which inhibits effective mutual exchanges and hence adaptation. Information from communication dissemination theory suggests that for an individual to be an effective "change agent", he/she must be perceived as a valuable member of a particular subculture or subgroup (Rogers and Shoemaker, 1971). Thus we have suggested paraprofessionals or peer facilitators: persons from a similar culture or frame of reference who would not have to undergo "culture shock" to work effectively in a home for which many persons are unprepared. Many of us can only draw on experiences from white, middle-class backgrounds, and that probably is insufficient and limiting, if not detrimental, when working with subgroups identified in some way as "disadvantaged" or "handicapped".

SUMMARY

In this section we have tried to briefly outline a few perspectives. Starting from the more traditional educational models, presented as deficit and non-deficit models, we moved to an applicative model from a socio-ecological perspective. Theories of learning and frameworks for viewing are briefly presented to provide a point of referent for a systems framework involving primary and adjunct systems. And finally, intervention frameworks are described so that the reader can gain a view of frameworks which have the concept of mediation as an integral and facilitative aspect.

Within the socio-ecological model, a systems perspective allows us to view the dynamic presenting state of the individual relative and closely allied to the characteristics of the major environments in which that individual functions. Highlighted are some of the exchange processes between individual and environment.

For the young child, four developmental issues were identified as necessary to be resolved in a negotiation process. The negotiation of the issues of attachment, communication, locomotion and active manipulation seem to be of critical importance if an individual is to be able to adaptively function in ever-widening contexts. Four functions of attachment are presented along with the suggestions that 1) there may be more functions served by the attachment relationship and 2) there may be equivalent functions that can be hypothesized relative to the other three developmental issues.

The major environment with which an individual must achieve an adaptive fit can be considered as a primary system. The primary system is described as a unique and interactive system with multiple individual patterns of measurable values of variables, a few of which are presented.

The adjunct systems are described relative to the primary system in that they are adjunctive--they "add to" the support for survival and development of the primary system, and provide the additional environments necessary for continued development. One critical task of the members of the primary system is to provide support for transitions to increasingly broader contexts and environments.

Topography is seen as a developmental map of a presenting state of an individual, the primary system and adjunct systems within which members of the primary system participate. Thus the topography can be seen as a *static representation of dynamic relationships within varied contexts* at a specific point in time. From a predictive standpoint, a tentative *developmental trajectory* can be hypothesized.

Mediation may be viewed as an ongoing process of mutual exchange between systems; in this sense primarily between the systems of a child considered to be "at risk" and the systems of the mediators. In a preventive sense, *alternate pathways* that will lead to adaptive functioning in varing contexts can be explored. Alternate pathways are explored with a view toward an adaptive fit that will promote a child's *survival and development*. Some pathways can lead into systems that promote only survival: these can be viewed as "*dead end systems.*"

Several assumptions about the role that members of the primary system, particularly parents, play in *mediation* are described. The suggestion that the professional *mediator* work closely with paraprofessionals who are valued and interactive members of particular subgroups is given.

The *italicized* words in the preceeding paragraphs are important words. They were deliberated and derived not in an arbitrary manner, but after long hours of negotiation to achieve a "*best fit*" between those words available to us in our Anglo culture and the critically important constructs of this socio-ecological model. We invite you to share these words as a first step in the application of a socio-ecological model of adaptive behavior and functioning.

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PART III

TOWARD AN UNDERSTANDING OF COMPROMISING CONDITIONS

TOWARD AN UNDERSTANDING OF MENTAL RETARDATION
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TOWARD AN UNDERSTANDING OF VISUAL IMPAIRMENTS
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PART III

TOWARD AN UNDERSTANDING OF COMPROMISING CONDITIONS

OVERVIEW

Nancy A. Carlson

Given the structural constraints of an extensive literature review, the time and resources of project staff, and the objectives of the project, it seemed necessary to highlight particular aspects of specific compromising conditions in the very early years. We have chosen to do so in a relatively traditional categorical manner.

Each interdisciplinary individual on the staff brought a different perspective to bear. Each of the following sections, therefore, highlights certain facets of the whole. There are commonalities across "conditions" and adaptive functioning, but there was an attempt to avoid duplication of information. The reader will find information of interest in all the sections and not just one particular interest area. In an effort to remain internally consistent with the proposed socio-ecological model of adaptive behavior and functioning, final selection for inclusion rested with the editor.

The information and perspectives which follow have been organized around the two preceeding parts. Constructs referred to earlier such as primary system, adjunct systems, presenting state, mediation, transitions, alternate pathways, and topography are incorporated to some degree in all sections.

TOWARD AN UNDERSTANDING OF MENTAL RETARDATION

Nancy A. Carlson

In the general field of special education, workers in the area of mental retardation are those who have given the most attention to the concept of adaptive behavior. A variety of factors have combined to bring about this concern. Included among these factors are interest in cultural and environmental factors (Leland, 1972; Nihira and Shellhaus, 1970; Mercer, 1973, 1976 a,b), dissatisfaction with I.Q. scores as a single variable (Leland, Nihira and Shellhaus, 1968), and the support of the American Association of Mental Deficiency (Noone, 1968; Grossman, 1973).

OVERVIEW

When approaching the area of mental retardation, it is imperative to realize that our concern is with a highly diverse population. The deep recognition of this reality will allow us to appreciate that any criteria used to select, category used to label, treatment used to remedy, and environment developed to accommodate will only be appropriate for, at best, a segment of the population's range of diversity. Each individual case is an issue to be negotiated between that individual and the particular setting in which the adaptive fit is to be achieved.

> *The term "mental retardation" is subject to entirely arbitrary definition. The concept has varied among societies as a function of differences in technological sophistication and social philosophy, and has varied over time as a function of changes within a given society. Furthermore, the concept has varied between scientific biases (Heber and Garber, 1975, p. 401).*

Mental retardation was earlier described from two contrasting points of view: the clinical perspective and the social system perspective (Mercer, 1973). The clinical perspective, which is by far the more common position, classifies mental retardation as a handicapping condition of the individual. This perspective includes both the AAMD and the educational systems of classification of mental retardation. The social system perspective, in contrast, views mental retardation as an achieved social status, which consists of acquiring behavior patterns constituting the role of the retardate in one or more social systems. The essential difference between these two perspectives is that the clinical perspective regards retardation as an inherent trait to *be measured and assessed, whereas the social system perspective views retardation as a social status acquired within the environment(s) in which the individual has contact.*

Mental retardation has been defined by the AAMD as "significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifested during the developmental period" (Grossman, 1973). Therefore, to be labeled "retarded", an individual must meet all three of these criteria: 1) suspicion of significantly subaverage mental retardation, established on the basis of measured intelligence, 2) impaired adaptive behavior established on the basis of particular instruments, and 3) an onset during the developmental period. It is extremely important to realize that mental retardation is a condition descriptive of current behavior, and while usually taken as predictive, should not, in fact, be considered to be determinative of future behaviors.

Indeed, for many years children categorized as "mongoloid" or more recently as "Down's Syndrome" were thought to have an irreversible genetic impairment of sufficient magnitude so as to impair both intellectual and adaptive functioning. Recent work by Hayden and Dmitriev (1975) causes us to question such assumptions. Although the results are still tentative, and longitudinal stability regarding increased intellectual and adaptive functioning has not been established, a perspective viewing probable improvement is socially and ecologically more appropriate. Earlier work may have to be reassessed in light of greater potentiality for improvement than had previously been predicted.

Impaired adaptive behaviors, defined as deficits in personal independence, personal adaptation and responsibility (Leland, 1972, 1973) as expected by an individual's age and cultural group, vary exceedingly between and among different age and cultural groups. During infancy and early childhood, delays in sensorimotor development, acquisition of communication skills, self-help skills, and socialization skills are thought to represent potential deficits in adaptive behavior (Grossman, 1973). These factors may be used as criteria for the diagnosis of "mental retardation", even though analogous developmental delays are often observed in other groups of children, and are not necessarily associated with the classification of mental retardation.

It has long been felt that developmental delays in young children are relational to the perceived severity of the retardation (Baroff, 1974). Therefore, professionals and parents have not expected as high a proficiency in an individual labeled "profoundly retarded" as in an individual labeled "moderately retarded". Recently, however, much more attention has been paid to particular topics of relevance to this discussion: individual differences in those categorized as mentally subnormal; the changing concept of intelligence; and the complex interactions between genetic predisposition and particular environments (Clarke and Clarke, 1975).

This last area of current interest, i.e., complex transactions between individual and environment, fits rather neatly into the model of adaptive behavior and functioning previously described. As Grossman (1973) states:

> . . . even among severely disabled, functional performance is the product of the interaction of constitutional and environmental forces, and that it can be modified. The potential for behavioral change, i.e., the dynamic nature of retardation, is one of the more significant concepts in the field to emerge in recent years. (p. ix)

A great deal of research has been generated in the last twenty years, much of it has immediate and widespread application to the area of mental retardation. Robinson and Robinson in 1965, when discussing the psychological factors in the etiology of mental retardation, stated that "the list of variables which have been empirically demonstrated to be related to mental subnormality is surprisingly short" (p. 182).

At that time, however, studies by Rene Spitz (1945, 1947) already demonstrated marked differences in infants raised by their own mothers in a prison nursery and those raised in a foundling home. Other instances of retardation found in infants institutionalized under impersonal conditions (Kirk, 1958; Provence and Lipton, 1962) lend support to the notion that such children end up markedly developmentally delayed when compared to children raised in a more nurturant-like institutional setting (Dennis, 1960; Rheingold, 1960, 1961; Skeels et al., 1938; Skeels, 1966). The implications of even this earlier research cause us to look more closely at the interactions between the presenting state of the individual and the systems to which that individual is attached.

PRESENTING STATE: CHARACTERISTICS OF THE INDIVIDUAL

In the very early years, a diagnosis of "mental retardation" is most apt to be made on the basis of a certain set of characteristics, some of which have a medically-oriented basis for classification. The Manual on Terminology and Classification in Mental Retardation (Grossman, 1973) contains an extremely sophisticated coding system. This system classifies according to the following categories: infections and intoxication; trauma or physical agent; metabolism or nutrition; gross brain disease (postnatal); unknown *prenatal influence; chromosomal abnormality; gestational disorders; following psychiatric disorder; environmental influences and others.*

Within these categories, there are particular subcategories such as: Hyperbilirubinemia, Galactosemia, Tuberous Sclerosis, Apert's Syndrome, etc. There are probably more than one hundred subcategory classifications relative to presumed "causes" of retardation. It is important to note with emphasis, however, that a medical diagnosis of a particular condition such as glycogenosis does not necessarily indicate a condition of retardation.

> *There are literally scores of specific diseases and conditions that have been known to produce damage to the brain and eventuate in retardation. Estimates are that no more than 20 percent of the total population of mentally retarded present demonstrable pathology in the structure or functioning of the central nervous system. This type of retardation, in which pathology of the central nervous system is a presenting feature, is fairly evenly distributed throughout all socioeconomic, ethnic, and racial groups. Furthermore, it is generally, although not always associated with measured intelligence lower than three standard deviations below the mean (or less than IQ 55 on the major tests). Affected persons tend to function as trainable or nontrainable pupils in school and are profoundly or severely impaired in adaptive behavior in adult life. They are also likely to have associated secondary physical disabilities (Heber and Garber, 1975, p. 401).*

In addition to, or in the absence of, a medical condition, there are a few characteristics of very young children that quite often draw family, peer group, or professional attention to a developing young child. A few of these characteristics are:

1. Developmental delay: a moderate to severe delay in achieving the major milestones considered critical to development. Of particular importance are the developmental issues of communication, locomotion and active manipulation.

2. Slow to respond: In general, there is a responsivity on the part of individual very young children, but it is slow relative to what most adults and other members of interacting systems have come to expect. This may or may not significantly affect the establishment and maintenance of a mutually beneficial attachment relationship (Escalona, 1968).

3. Slow to achieve: In general, very young children in this "at risk" state are very much slower in achieving specific skills considered to be very significant in our Western world. Of particular importance are the self-help skills of feeding, dressing, toileting, etc.

4. Social visibility: Every parent wants his or her child to "stand out," but in our society such visability must be relative to the "ideal" *or "normal". Hence a child that stands out by virtue of being deviant in one or more social attributes may also fall into this category (Leland, 1968, 1973). Examples are aggressive tendencies, drooling, "vacant" stare, etc.*

Information about the presenting state of the child when considered in isolation is necessarily of only limited value. The reason for this is that the critical issue is the possibility of achieving a fit between the presenting state of the child and that of the environment. A highly active child may be a gift to one family and a burden to another similarly, for a quiet and phlegmatic child (Thomas, Chess & Birch, 1968).

Thus, in evaluating the significance of a given child's presenting state, one must consider that state in relation to the presenting state of the child's environment, particularly the primary environment. The concern in such an evaluation would be with the predictive likehood of that child with those unique characteristics being able to negotiate the developmental issues with that family with its equally unique characteristics.

Additionally, in that a child's level of adaptive functioning is dependent upon his adaptive fit with a particular environment, a given child will display various levels of adaptive functioning in various environments.

PRESENTING STATE: CHARACTERISTICS OF THE ENVIRONMENT

If the presenting state of the individual is difficult to categorize and label, it is partially due to the complexity and controversy surrounding differences in environments and how these differences are perceived. Within the suggested definition of adaptive behavior provided by the AAMD (1973), there are several phrases which suggest how such controversies may begin. The definition used in the RFP for this project was:

> *The effectiveness or degree with which the individual meets the standards of personal independence and social responsibility expected of his age and cultural group.*

The history surrounding current controversy and possible fragmentation of resources has to do with varying environments. Much of the work and focus on adaptive behavior "skills" has been designed, implemented, and evaluated in institutional environments, primarily with "adult retardates" (Awad, 1973; Congdon, 1973; Foster and Foster, 1967; Foster and Nihira, 1969). It is possible that adult retardates who have been in institutions for a lengthy time have, in fact, become acclimitized and hence adapted in a specific and restricted sense to the demands and expectations of that particular environment. If we move them from that environment, no matter what the motivation, the results can range from slightly upsetting to the individual to devastatingly fatal, as was the case with several transferred residents of one institution (Horn, 1975). The values of contemporary society appear to be such that inclusion rather than exclusion of institutionalized elements is a possibility, but those who control institutions are less inclined to think it possible (White and Wolfensberger, 1969). Perhaps there is some justification for thinking that long time "institutionalized adult retardates" cannot cope in our present day society.

From a socio-ecological perspective, successful adaptive behavior and functioning for any individual in any environment is based upon the achievement and maintenance of an ongoing relationship between the individual and the environment. This relationship must be one that supports the individual's survival and development. Development in this sense means successful transitions within and between ever-widening environments. But the institutionalized individual is cut off from other environments, buffered and cloistered within what amounts to a "dead-end system". Hence the individual solely in an institution is not, after a particular point in time, developing, but is only surviving. Small wonder that individuals taken abruptly from the rooted environment in which they were surviving would die when transferred to another environment to which they had had no chance to adapt in the developmental sense of the word.

Are there other "dead-end systems?" Are there other environments that promote only survival of the individual and not development?

The frequency of instances of "mental retardation" has not been found to vary across socio-economic status (SES) except in groups labeled "educably mentally retarded" or "borderline" (Kirk, 1962). In the "borderline" groups there is a significantly higher number of individuals from the lower SES class than in the upper SES class (Passamanick and Knoblock, 1961). Instances of "severe" and "profound" retardation occur at the same rate across SES. This demographic data has led several individuals to suggest that a lower standard of living is conducive to lower mental functioning and impaired adaptive behavior. Such differences are assumed to be attributed to the complex interplay of environmental influences which tend to markedly influence potential (Freeman, 1970; Dunn, 1973).

Carried to an extreme, and applied to particular subgroups, the notion that genetic differences are the sole or most critical determinant in lowered intellectual potential has stirred a remarkable and unresolved controversy (Jensen, 1969). Jensen's article fanned the flame of the hot topic of cultural differences. Arguing that cultural "differences" are not "deficits", proponents of the difference model argued for non-discriminatory, unbiased, culture free tests to be devised and/or used with "disadvantaged" minority groups (Torrance, 1974; Kamin, 1973). This had widespread ramifications to that subgroup of individuals at that time labeled "borderline retarded".

To answer the question: "Are there other dead-end systems?", it does not seem, from a socio-ecological perspective, that membership in a particular subcultural or socio-economic group precludes entry into ever-widening contexts. Thus, a child from a particular culture or ethnic group may easily navigate between and among adjunct systems in close proximity and having similar orientations. This child, as a member of a supportive primary system, may only become "at risk" when attempting to navigate a transition to a new and *perhaps incompatible adjunct system with which he must try to achieve an adaptive fit. The adjunct system with which it appears most difficult to achieve an adaptive fit is the public school system (Mercer, 1976 a,b). What are the factors that contribute to successful achievement of an adaptive fit?*

PRIMARY SYSTEM

First of all an individual is born into a particular and unique system. This system, from the beginning tries to establish and maintain mutually beneficial exchange processes. For the system and the child whose presenting state is such that it might be considered "at risk" for resolving particular developmental issues, the processes are difficult to negotiate.

To be more specific, some children at birth evidence visible and easily detectible evidence of an "at risk" condition relative to a presumed degree of "retardation". Examples can be seen in children diagnosed as "Down's Syndrome" or "cerebral palsy". A host of conditions at birth might lead informed parents to suspect a possible problem.

Many of the possible reactions of members of the primary system are detailed in the other sections on compromising conditions. When a compromising condition such as "retardation" is suspected, there is no evidence to suggest that parents and siblings are not touched by fear, shame, doubt, anxiety, hostility, depression, anger, grief, etc. (Barsch, 1968). There is some evidence to show that mitigating factors such as dependence, social status and religion determine the impact a "retarded" child has on the family (Farber, 1959). Pratt (1976) suggests that an "energized family" will most likely be able to meet system needs relative to family health care, including a "handicapped" child.

In any event, there does seem to be some evidence that regardless of initial presenting state at least the first developmental issue, establishment and maintenance of an attachment relationship, can be resolved. Skeels' (1938, 1966) work rather dramatically emphasized this point, and it is further supported by Heber's Milwaukee Project's tentative conclusions (Heber and Gardner, 1975). Thus, through a possibly slower process of mutual modification, most children considered to be "at risk" to become "retarded" can become contributing members of their primary systems.

The other developmental issues, communication, locomotion and active manipulation, may be much more difficult to resolve, and may create much more anxiety. The degree to which the condition is indeed compromising will be the degree to which the system will have to make creative readjustments. The child may not speak until much later than others of a similar age, and then in words difficult to comprehend. The child may not be able to walk until much later than other children in the family or the neighborhood. And the child may not actively explore on his own, creating multiple ripple effects within the primary system. Much of the literature on "abusive" parents or the "abused, neglected or battered" child suggests that the appropriate negotiation of the key developmental issues has not taken place (Sangrund, et al, 1974, Helfer, 1970). Families like this may indeed be called a "multi-problem family" (Geisman & LaSorte, 1964).

Thus it may be the discomfort or dysynchrony felt by members of the primary system, or of particular members of adjunct systems in regard to resolving these developmental issues, that finally propels someone to begin negotiations to "get real help".

ADJUNCT SYSTEMS

The adjunct systems available to family members suspecting an "at risk" condition of developmental delay are numerous. Traditionally, physicians, relatives, neighbors and friends become the first linkages to that outside world of "help" If these adjunct systems are populated with concerned human beings, a response to questions regarding developmental delay may be similar to the observations made by Murphy and Moriarty (1976):

> all studies of growth show that many children have growth irregularities and that the "normal" or average pattern of growth at comparable rates in every aspect of physical and mental development is actually rather unusual. Systematic detailed analyses of Gesell tests and other tests of infants have shown that some children are considerably ahead in certain systems and behind in others: for instance, some children are ahead in social functioning but behind in motor functioning, or ahead in social and language functioning but behind in the adaptive functions that make it possible to handle the stimulation to which their social and language precocity exposes them. (p. 6)

In other words, the most likely response is a "wait and see", unless the child is in a state that approximates a vegetative condition or is being *obviously abused. Sometimes a "wait and see" framework can help, but from a primary system perspective, very seldom. As Louise Wilson (1968) says:*

> *Out of all the emotions of those months, the bewilderments and fatigues, I recall most a dead center of immobility in myself. Often I used to stop and stand wherever I was, trying to think, wishing I knew what to do, and which of all the feelings that tore through me I ought to act upon. . . .*
>
> *Most difficult to bear was our own ignorance. The doctor told us nothing. I understood that we were not dealing with anything that had a ready answer. Yet I wanted to have some general idea of where we stood. (p. 71-72)*

Members of a primary system are often most intimately concerned with the developmental progress of their child. They seldom have knowledge, often seek answers, and almost never are helped to understand the possibilities or alternative pathways open to them.

Eventually, however, most come to a path in the road that leads to professional mediation, whether through a clinic, a school, an individual or a private agency.

Mediation

Here then is the help that the members of the primary system have been assiduously seeking. Or perhaps it is help that is offerred to those who were unaware they were in need of help (i.e. the "disadvantaged"). In any event, we enter into negotiations with members of a new adjunct system.

Assessment

The first issue that must be resolved between members of both systems is usually the issue of diagnosis. With a suspicion of "retardation" or "developmental delay" on someone's part, it will be necessary to accumulate a few data points in specific areas. The AAMD, as previously mentioned, has suggested 1) substantially subaverage general intelligence, 2) impaired adaptive behaviors, and 3) early onset, as being the areas of most interest for assessment. In regard to adaptive behavior,

> *(it) is difficult to measure for several reasons. It is difficult to get information on what a person routinely does do, which is essentially the information needed for determining adaptive behavior. An intelligence test can be administered in an office with sample items used to demonstrate the types of mental problems an individual can handle adequately, for intelligence tests are designed to indicate*

> *what one can do. Measures of adaptive behavior cannot be adminstered directly in offices, but must be determined on the basis of a series of observations in many places over considerable periods of time. For this reason, rating scales or interview data usually make up the data from which levels of adaptive behavior are inferred. (Grossman, 1973, p. 16)*

For a period of time, instruments such as the Vineland Social Maturity Scale (Doll, 1936), the Columbia Mental Maturity Scale (1959), Gesell's developmental norms (Gesell and Amatruda, 1969). Denver Developmental Screening Test (Frankenburg and Dodds, 1968), the Cain-Levine Social Competency Scale (Cain et al., 1963), and Progress Assessment Chart (PAC) (Gunzburg, 1973) were used to assess social responsibility and personal independence.

Then with the recent interest in adaptive behavior as another aspect to be assessed, a great deal of time and effort has gone into the standardization and improvement of an AAMD Adaptive Behavior Scale (Bhattacharya, 1973; Congden, 1973; Lambert and Windmiller, 1973; Leland et al., 1968; Leland et al., 1972; Malone and Christian, 1975; Nihira, 1967, Nihira et al., 1968, 1975). This scale (ABS), consisting of items presumably tapping two different domains of behavior, has employed sample populations in institutions, public schools, and day care centers. Although information as yet is not fully together, it is presumed that selected items on the scale are applicable to children chronologically between three and five (Nihira, 1976).

However, there are problems with this scale, as there are with any scale: "So often scales lead to a freezing of concepts, a premature finalizing of norms, and blocks to fresh observation and thinking"(Murphy and Moriarty, 1976).

In addition to possibly promoting inflexibility, one often faces problems with rater perceptions when using scales.

> *Interviews and rating scales consistently show lower reliability than standardized intelligence and achievement tests. One person interviewed may give indications of a much higher degree of self-help skills, for example, than another person interviewed about the same child. One rating scale may indicate a higher level of functioning than another because of the way in which the scale is worded or was developed. (Grossman, 1973, p. 16-17)*

Parents are apt to view performance in their child differently than professionals (Crawford, 1974; Cole, 1974). In fact, Cole (1974) found that parents generally tend to overestimate their child's social competency while teachers underestimate it (on the ABS, Vineland and PAC). However, these perceptions may be accurate and have little to do with "inter-rater reliability". A person's adapting or coping behavior in a particular situation depends as much upon his own abilities as it does upon the perceptions, biases, cultural predispositions and priorities of the individuals who are a part of the child's environments (Leland, 1972). Each environmental setting, in other words, is apt to facilitate different behaviors. If those behaviors do not completely exclude an individual from participation in his own social environment, then by definition the individual cannot be considered "retarded".

But gathering more complete information from and about the primary system environment has not traditionally been done. Nor has it seemed to be important to collect information about other adjunct systems of which the child or family members are a part. Thus, it is more difficult to understand those "other" environments.

Recently, a data gathering system of considerable complexity has been designed, field tested, revised and is in the final publication process (Mercer, 1976 a,b). Mercer's "System of Multi-Cultural Pluralistic Assessment" (SOMPA) is designed to contribute critical "non-scholar" information on sociocultural modalities. Health history information and test information is combined with the sociocultural information and is categorized according to degree of fit to one of three models simultaneously used to view each child. Each of the three models, Medical, Sociological and Pluralistic, are described in terms of particular dimensions which are fairly precisely stated. One of the important aspects to come from this work is that it does not necessitate new "culture-free" instruments; instead it uses existing instruments analyzed through modern statistical analysis against an individualized context (Mercer, 1976 a). This particular system seems more compatible with the socio-ecological model of adaptive behavior and functioning proposed in this report.

According to the author, this system is, as yet, only appropriate for the elementary school-aged child. The possibilities for adapting the system to very young children seem to be present, and would provide interesting work for a sophisticated scholar who knows and cares about very young children interacting within and across varying environments.

Other systematic assessments of infants and preschoolers suggest the same adaptability in terms of process for children from zero to five, and for primary and adjunct systems: Brazelton's Neonatal Behavioral Assessment Scale (1973); Haar's et al. nurse rating scale method of classifying neonate personality (1964); Murphy and Moriarty's coping techniques and ego resources (1976); Haeussermann's systematic sampling interview (1958); Kohn & Rosman's (1972) dimensions of social competence; Thomas, Chess and Birch's (1968) assessment of temperamental differences in young children. These assessments and others described in different sections of this report have tremendous implications in the assessment of adaptive behavior of a young child "at-risk" for developing a compromising condition labeled "retardation".

The more we are able to look at individual uniquenesses and the patterns of behaviors that profile each young child, as well as the uniquenesses and patterns present in the systems of which that child is a part, the better able we are to truly develop a topographic map of adaptive behaviors and functioning for all interconnected aspects.

Pathways

Suppose, as was the case with Matt--whose portrait we briefly painted earlier--there is an assessment and/or diagnosis of some sort of moderate to profound "retardation". Often in the early years the diagnosis is only tentative, but equally often, the tentative diagnosis is treated by members of all systems as a positive, definitive and conceivably irrevocable conclusion.

What are the alternative pathways available to members of primary and adjust systems? What possible life pathways can be chosen that will eventually lead, from an adaptive framework, to ever-widening environments? An adaptive fit into a program is a creative accomplishment of those involved. If an adaptive fit cannot be achieved, this is not an adverse reflection either on the individual or upon the context. Rather, it is to be taken as an irreparable fact that a fit cannot be achieved for each and every individual-environmental relationship. Hence, a diversity of programs are needed so that there are more opportunities for the accomplishment of adaptive fit.

Institutionalization

With sophisticated prenatal, neonatal and postnatal care, children are now being born with complicated presenting states that may preclude the establishment of any functional, independent exchange processes. By virtue of an accident, poison, etc., a similar presenting state may also be seen later in life.

Members of primary and adjunct systems may, for a variety of economic or socio-emotional reasons, choose institutionalization as the preferred pathway. While this pathway does not always lead to a "dead-end" system, the probability is still high. The individual's survival, as noted earlier, may be prolonged, but the likelihood of development in an adaptive sense is much lessened (Provence and Lipton, 1962). More recently, specific programs employed in institutions have suggested that even in this environment, specific skills can be taught which may lead to more adaptive behavior and functioning (Bogen and Aanes, 1975; Foster and Foster, 1967).

Support in a primary system setting

Most children, by the time such decision-making is reached, have developed roots in some sort of primary system, whether it is with the natural parents or an adopted family. The members of the primary system choose to accept and care for the child to the best of their ability. What avenues of support are there? What adjunct systems can become involved?

Home mediation: many educational and medical programs provide a home visitor who can assist the primary system members in a variety of ways. Nielson et al., (1975) describe a program of mediation for "atypical infants" and their families. The "role release" described by the authors is essential for a professional to function smoothly in another environment. Many other Bureau of Education for the Handicapped funded early intervention programs ("First Chance Network") operate in a similar manner. (Note: a list of these programs is available from the U.S. Office of Education. It is one of the first linkages to adjunct systems that has been designed in a systematic manner.)

Special setting: with a recent federal state and local interest in early childhood, preschool programs have been developed that care for children with special needs. Some of these programs effectively interact with other members of the primary system, some do not. Hayden and Dmitriev (1975) describe an interesting program designed for Down's syndrome children from birth to five in which the prevailing philosophy was to bring the "trainable" children's development "as close to normal development as possible" (p. 1974). Given this philosophy it is not surprising to read in the author's conclusions:

> . . . we learned that we had to raise our expectations for this population. When we began the program with these young children, it was certainly not our objective to teach them to read or do

> *many of the other things they have demonstrated they can do. Many people who see them in action can hardly believe they are Down's syndrome children. (p. 220)*

And they are not. They are children participating in an environment that encouraged their survival AND development: the development of interactive processes by which they were able to effectively negotiate developmental issues and begin navigation to ever-widening contexts. Professionals do need to take a look at what effect their limited expectations have on the child who is "at risk" (Cole, 1974; Foster et al., 1976; Gorelich, 1973; Kroenck, 1976; Sawisch and Fitzgerald, 1976).

Integrated setting: as was the case with Matt, some members of primary or adjunct systems may feel there is merit in having a "retarded" preschool child participate in a "normal" day care or nursery school setting (Carlson, 1975). Recent literature suggests that the mutual exchange processes taking place between children and adults are quite mutually beneficial (Klein, 1975; Neisworth and Madle, 1975; Nazarro, 1974; Northcote, 1971; Rapier, et al., 1972; Cohen, 1975). The benefits to the child, particularly in the early developmentally adaptive years may be unsurpassed.

Respite settings: Numerous references attest to the fact that a child with a compromising condition may overburden the capacity of the members of the primary system to continuously readjust (Murphy, 1975; Neifert & Gayton, 1973; Pratt, 1976; Spinetta & Rigler, 1972; Barsch, 1968; Chassier, 1969; Dow, 1965; Farber, 1959; Kaplan, et al., 1973; Wilson, 1968). Recent options for members of primary systems have included periodic "time-outs", or times in which family members can regroup minus the presence of the child. The possibility of being able to phone someone (Pike, 1973) or to belong to a group from which support can be drawn (Flaxman & Flaxman, 1969) are but examples of options that take into account the need for creative readjustment when a system experiences dysynchrony and stress.

These are but a few of the pathways available, although these choices are most common. Beyond assessment and choice of pathway or program, there exists the real work--the processes of ongoing negotiation.

Negotiation

No matter the diagnosis or pathway, the child will still be expected to function in at least one particular socio-ecological environment. Even though a child seems infinitely adaptable at times, (Murphy & Moriarty, 1976, Escalona,

1968) it still must fall to members of the primary and adjunct systems to demonstrate even more adaptibility. This is true of the mother-infant dyad (Sander, 1962; Stern, 1974, Bell & Ainsworth, 1973), and could so obviously be true of exchanges when a child is older if we were to make the effort.

Thus a program that offers maximum flexibility in terms of offering alternative possibilities to resolve particular developmental issues is most likely to be successful in helping a child and participating adults to establish and maintain ongoing successful negotiations. This is not easy. Not every child will have the opportunities that Matt had provided for him. Nevertheless, this quite obviously is what we are striving for.

For each child and for each primary and adjunct system, this is an issue that must be negotiated in order for us as professionals to consider that there is adequate demonstration of "adaptive behavior". Adaptive functioning is not a score or a subscore on a particular assessment device, it is a complex series of interactions that we must attempt to negotiate in a manner that will be mutually beneficial for all involved. We also must function adaptively in our socio-ecological world.

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TOWARD AN UNDERSTANDING OF VISUAL IMPAIRMENTS

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OVERVIEW

When discussing the nature of visual impairments, it is important to realize that there is a diverse population of individuals referred to as "visually impaired" and that any criteria used to select, category used to label, or mediation designed to remedy or accommodate will, at best, describe or be appropriate for only a segment of the population. Each particular case is an issue to be negotiated between the presenting state of the individual and the environment in which an adaptive fit is to be achieved.

PRESENTING STATE

Traditionally, visual handicaps have been defined by the American Foundation of the Blind (1961) according to two separate categories: blind and partially seeing. "Blind" is defined as: "20/200 vision or less in the better eye with the best possible correction or a restriction in field of vision to an angle subtending an arc of 20 degrees or less." "Partially seeing" is defined as "those who have remaining visual acuity (sharpness or clearness in vision) between 20/200 and 20/70 in the better eye with the best possible correction or who, in the judgment of eye specialists, can benefit from either temporary or permanent use of some type of special educational program" (Hewett, 1974).

Two of the major distinctions between the blind and the partially seeing are: 1) the blind must use braille, while the partially seeing can utilize their remaining vision to read and do school work and 2) the blind child is usually identified during preschool years, while the partially seeing child may not be identified until elementary school (Hewett, 1974).

Therefore, since the presenting states may be different between the blind and the partially seeing, negotiating the developmental issues may also result in alternative pathways. This section will be mainly concerned with the blind from birth (congenitally blind) and blindness shortly after birth (adventitiously "blinded"). It is important to note that the way an individual blinded after birth conceptualizes his environment is dependent upon the length of time he has had vision (Scott, 1969). Therefore, it is unlikely that a child blinded when less than one year of age will retain any visual imagery, whereas a child blinded at an older age will have a more specific visual conception of the world about him in relation to his age; i.e., the older a child is when blinded, the better he will be able to visually conceptualize the world (Scott, 1969).

From the definition of blindness, the major distinction used for determining a visual impairment is having 1) 1/10th or less of normal vision, or 2) no vision at all (Scott, 1969). This classification of visual impairment is measured in terms of visual acuity (sharpness or clearness of vision) and narrowness of visual field (Kirk, 1962). It is important to note, however, that visually impaired children, without any other major disabilities, do not differ markedly from sighted children in areas such as intelligence (Bateman, 1967), language development (Kirk, 1962), nor in other sensory modalities; they do, however, tend to be able to recall things more efficiently from memory (Burlingham, 1965). Napier (1970), in discussing the diverse population of the visually impaired, states:

> The visually disabled child is an individual just as other children are individuals. A group of visually disabled children consists of individuals; they are not identical with each other merely because of their visual problem. The visual disability may be the only thing they have in common... Therefore, a given blind child may, in fact, have more in common with normally seeing children than with other blind children. (p. 7)

Criteria Used to Assess the Presenting State

The National Society for the Prevention of Blindness (1965) has noted these ten behaviors which may be indicative of visual defects:

1. Attempting to brush away blurs, rubbing eyes excessively, frowning.
2. Shutting or covering one eye, tilting head, or thrusting it forward when looking at near or distant objects.
3. Difficulty in reading or in other work requiring close use of eyes.
4. Blinking more than usual, crying often, irritability when doing close work.
5. Stumbling or tripping over small objects.
6. Holding books or small objects close to eyes.
7. Inability to participate in games requiring distance vision.
8. Excessive sensitivity to light.
9. Red-rimmed, encrusted, or swollen eyelids; recurring sties; inflamed or watery eyes; crossed eyes.

10. *Complaints of not seeing well; of dizziness, headaches, or nausea following close eye work; or blurred or double vision (Hewett, 1974, p. 92).*

As Hewett (1974) states:

> *Any child manifesting one or more of these signs consistantly should be referred to the school nurse or an eye doctor for intensive examination. (p. 92)*

Hence, any of the above behaviors may be used by laymen as criteria for thinking an individual might have a visual impairment, while eye specialists follow the medical definition and use visual acuity and narrowness of vision as significant indicators of visual defects.

In evaluation of individuals with a visual deficit as part of the presenting state, it is important to recognize that the degree of visual efficiency cannot always be accurately determined because medical exams, which determine tissue and structure deficiencies, provide only a limited and conditional measurement (Halliday, 1970).

It must also be taken into account that other factors--such as the child's ability to sit still, to attend, to follow directions, and to understand, strongly influence the evaluation of the visually impaired child (Halliday, 1970). In addition, since most tests were designed for the seeing, they are less reliable for blind children: understandable since a visually impaired child, in learning about his environment, is dependent to a great extent on his family's understanding of his needs (Lowenfield, 1956). The child without vision needs more opportunities for direct encounters and must be stimulated to explore more than the child who has vision. Consequently, assessment procedures are effective only to the degree that these and other related factors are taken into account.

Halliday (1970) contends that incorrect evaluation stems primarily from two sources: 1) failure to recognize the amount of vision in each eye as well as the ability of the child to fuse the images received by the two eyes, and 2) from peripheral elements such as strangers present or unfamiliarity of the room in which the evaluation is being conducted.

The Snellen chart for visual screening, which is a wall chart of block letters, is frequently used in determining visual defect because of the ease and speed in which it is administered (Kirk, 1962). As the Snellen chart measures only far point acuity, other tests are necessary to supplement the small amount of information that this test provides (Ashcroft, 1963). Listed below are some of the educational assessment devices used to evaluate various aspects of the presenting state of a young child (Bullard and Barraga, 1971). Only one is applicable solely to visual impairments.

I. Instruments sometimes used to Assess Children with Visual Impairments

Ayres, A.N. Southern California figure ground visual perception test. Los Angeles: Western Psychological Services, 1965.

Bayley, N. Bayley scales of infant development. New York: Psychological Corporation.

Cattell, P. *The measurement of intelligence of infants and young children*. New York: Psych Corporation, 1947.

Columbia mental maturity scale. New York: Harcourt, Brace, and World, Inc., 1959.

Frankenberg, W.K. and Dodds, J.B. Denver developmental screening test. Denver: University of Colorado Medical Center, 1967.

Frostig, M. Frostig developmental test of visual perception (Consulting Psychologists Press). Chicago: Follett, 5, 1964.

Hayes, S. Alternative scales for the mental measurement of the blind. In *New Outlook for the Blind*. *36*, 225-230, 1942.

Healy picture completion test 1. From Pitner-Paterson performance scale. Chicago: C. H. Stoelting, 1917.

Hiskey, M.S. Hiskey-Nebraska test of learning aptitude. Lincoln, Nebraska: University of Nebraska, 1966.

Kirk, S. A., McCarthy J.J. and Kirk, W.D. The Illinois test of psycholinguistic abilities (ITPA). Urbana, Illinois: University of Illinois Press, 1968.

Kohs, S.C. Blocks - intelligence measurement. New York: MacMillan, 66-67, 1923.

Stanford binet intelligence scale (form L-M). Boston: Houghton-Mifflin, 1960.

Wechsler, D. The Wechsler-Bellevue intelligence scale, Form II. New York: Psychological Corporation, 1946.

WISC (Wechsler intelligence scale for children). New York: The Psychological Corporation, 1949.

WPPSI (Wechsler preschool and primary scale of intelligence). New York: Psychological Corporation, 1949.

It seems apparent that the nature of a visually impaired child's differences are such that environmental modifications may be necessary to help the child negotiate the essential developmental issues. The next section will closely examine some of the variables within the primary *system, which may have a profound effect on the young visually impaired child.*

PRIMARY SYSTEM

Investigators interested in the primary system of visually impaired children have analyzed and assessed parental attitudes toward the presenting state.

Fine (1968) described a range of attitudes from overindulgence to complete rejection. Sommers (1944) found five overlapping parental attitudes of varying degrees and intensities: 1) acceptance of the child and his presenting state, 2) denial of the presenting state, or perfectionism, 3) overprotectiveness, 4) disguised rejection, and 5) open rejection.

Lowenfield (1956) contends that acceptance of the visually impaired child seems to depend upon the parent's own feelings of security as well as their "natural" love for the child. According to Fraiberg, parental attitude of acceptance effectively demonstrated to the child may circumvent developmental difficulties and conflicts some visually impaired children encounter (Fraiberg, 1975).

Adjustments and modifications are negotiated issues between the individual child and the particular primary system. Certainly further study of these processes of mutual modification is needed. As Norris (1957) states:

> *All the components for the healthy personality development of any child are crucial for the blind child because his capacity to master his environment is definitely related to his secruity in his family and the understanding that family members have of his needs. (p. 66)*

ADJUNCT SYSTEM

In addition to parental reactions to the visually impaired, there are also societal reactions which may influence how the parents interact with the child. Unfortunately, many of these societal reactions tend to work against the visually impaired individual's acceptance of self. Wright (1974) suggests that some of these cognitive and affective societal attitudes are strongly ingrained in our societal patterns and usually detract from a blind persons sense of self.

Two cognitive attitudes of most sighted individuals towards those who are visually impaired are: 1) the spread phenomenon—when a single characteristic is imposed on other attributes, and 2) "catastrophic" imagination--when an individual's impairment is exaggerated by others so that it is seen as much more than it actually is (Wright, 1974). Wright attributed these cognitive attitudes to the fact that most people lack the knowledge and understanding of how a blind person adapts to his environment.

Attitudes, however, can be revised in two ways: 1) by acquiring positive attitudes through interaction with visually impaired individuals, or 2) by anormalization--which is the intellectualized process of removing the blind from the laws of ordinary mortals, e.g., by attributing to them a sixth sense (Wright, 1974). Both of these tend to underrate the visually impaired person's actual abilities, although the former seems more humanistic and may, therefore, be worth more encouragement and support.

Some affective societal attitudes, which inhibit the visually impaired child from developing a positive self-concept, are pity, fear, uneasiness, and guilt (Wright, 1974). In contrast, Wright contends that respect and genuine sympathy are societal attitudes that can work to instill positive feelings of self in non-sighted individuals and should, therefore, be encouraged. Sympathy, in and of itself, however, may be ultimately demoralizing. Many adult individuals labeled handicapped neither look for nor accept sympathy.

For a visually impaired child to accept himself and the limiting condition, it is necessary for initial and later personal and social adjustments. This acceptance begins within the primary system by means of wholesome relationships with significant others (Umsted, 1975). The child will begin to accept himself because significant others within the primary system have provided the essential ingredients for a strong self concept, e.g., genuine warmth, love and acceptance. In addition to adaptation and adjustment within the primary systems, there must be adaptation and adjustment on the part of other interacting adjunct systems.

The Attachment Relationship Within the Primary System

Thus far, we have seen that a child's topography, (the mapping out of the presenting state, primary system, and adjunct systems that effect him throughout life), begins early and is primarily centered upon the way in which the parents react to the child and subsequently interact with him. As Sullivan (1953) points out:

> *The infant is practically absolutely dependent on the intervention of others, or a particular other, for survival and the maintenance of necessary interchange... (p. 41)*

From primate studies on maternal deprivation (Harlow, 1961), it has been generally agreed that a rupture in early love ties may produce a permanent impairment in the capacity to form enduring bonds later in life. The importance of forming an attachment relationship with the primary caregiver becomes readily apparent for all children.

Since eye contact is the matrix of a signal system evolved between mother and child, extraordinary problems arise as the visually impaired child and his parents try to make this vital human connection (Fraiberg, 1974). For the sighted child, visual configuration of the human face is the primary elicitor of the smile. This however, is not the case for the nonsighted child. Instead, a smile is brought about in the visually impaired child by the sound of a familiar voice (Fraiberg, 1975). The smiling response in the visually impaired child does not differ markedly from the smiling response of the sighted child, but differences do exist in the manner in which the smile is elicited.

The nonsighted child is able to respond to significant others, a definitive prerequisite for the attachment relationship to take place; the attachment process is different, however, for the nonsighted than it is for the sighted. Other sensory modalities must be tapped by the caregiver so that the attachment relationship can be established and maintained.

To help make up for the loss of eye contact in forming the attachment relationship, tactile intimacy and comfort must be provided by the caregiver (Fraiberg, et al., 1969). As a result, love ties are promoted, but by alternate developmental pathways which provide the child with the security needed to later function in other environments.

As mentioned earlier, Sullivan (1953), Rheingold (1966, 1969), and Bell (1968) have found that the mother's interactions with the child are profoundly significant, in that mutual acceptance will most likely lead to a healthy self concept and a stronger sense of self. It is thus of utmost importance for the caregiver to take into account the child's temperamental characteristics (Chess, 1967) along with any other factors which are a characteristic of the child. It is also important to have relatively consistent exchange processes with the child while radiating a genuine care and concern.

Unfortunately, this is easier said than done. In fact, Greenberg (1971) has found that some mothers of visually impaired children show the following interactional characteristics:

> 1) alternating between extremes of apathy and vigorous activity with inconsistent, poorly organized play, 2) stereotypic or fixed expressions, 3) restrained or restricted gross body movements, 4) little animated behavior in relating to their child, 5) frequent overstimulation of the infant--moderate slapping, harsh stroking, and tight grasps.

In addition, because children with severe visual impairments may be perceived to respond differently during infancy, mothers often tend to avoid interaction with their child. This may lead to maternal depression and subsequent withdrawal from the child (Burlingham, 1965), a mutual modification which is not in the best interests of either infant or caregiver. This is unfortunate but understandable, since the mother expects the child to develop as if unimpaired, but seems unable to comprehend the differences in behavior as a result of the impairment. For example, a blind child may be perceived as "withdrawn", when in actuality the "withdrawal" may serve the purpose of "listening" more intently (Burlingham, 1965).

Unfortunately, there is often a tendency for a spiral of estrangement, discouragement, and withdrawal to occur which interferes with the attachment relationship, and eventually hinders healthy emotional development. With mediation, support, and acceptance, however, a child may be able to form a healthy attachment relationship with the visual impairment a non-detrimental aspect.

Mediation Within the Primary System

A few intervention programs have been developed which take into account the contexts of conduct, so that the negotiation of the attachment relationship is facilitated. Some of the programs that are available to assist the primary system in accomplishing these negotiations are discussed below.

Fraiberg (1975) has developed a program which is used as preventive mediation in visually impaired children. Based on promoting attachment in child-parental interaction, the focus is on aspects of adaptive behavior considered to be "at-risk": 1) human object relations, 2) adaptive hand behavior, and 3) locomotor functioning. Essentially for educational guidance, the "guidance worker" approaches the family in a noncritical, nonjudgmental manner. This is done in an informal setting which facilitates an open exchange between the guidance worker and the mother so that an understanding of the blind child can give the mother insight into enhancing the child's cognitive, emotional, and motor development.

In a program for blind infants, Fraiberg, Smith, and Adelson (1969) have provided guidance and counseling in five major areas of development: 1) attachment behavior, 2) behavior toward inanimate objects, 3) gross and fine motor development, 4) language, and 5) self and object concepts. Basically, this program is based on promoting attachment through communication and response so that negotiation of developmental issues will be easier for both the child and the parents. As Fraiberg, et al (1969), point out:

> The greatest benefits that accrue from the subsequent introduction of techniques for developing investment in inanimate objects, for "teaching" the hands to learn and to "see" and become adaptively useful, for surmounting the particular obstacles to gross motor development, depend first on the presence of a lively, rewarding relationship between the baby and his parents. (p. 138)

In each stage, Fraiberg and her co-workers suggest that the child

> needs help in reaching out to the object world and special understanding of the pathways that must substitute for those ordinarily provided by vision. (p. 139)

In developing a curriculum for young visually impaired children, Wolinsky (1972) has noted that there is no preplanned curriculum in the "cookbook" sense that is optimal for all children. Instead, a curriculum should be fluid and change in terms of the specific task in relation to the child. This framework for curriculum development is based on the assumption that the major problem to be negotiated is the inadequacy of experiences during the critical years. Curriculum plans should be made up in terms of 1) age, 2) behavior to be learned, 3) degree of the handicap, and 4) strengths and weaknesses of the environment. The issue is to discover what differences there are in critical periods, and to help each child through them. For an effective curriculum these barriers must be dealt with by looking closely at the interactive process between the individual and the environment (Wolinsky, 1972).

Other ideas for curriculum development in infants have been noted by Barsh (1967). He feels that:

> A curriculum in its simplest form, is a planned sequence of events, activities, and experiences occurring in a prescribed time period intentionally organized and implemented to achieve a desired result. (p. 545)

This particular notion of an infant curriculum has been designed so that an "infant instructor" assists the parents in implementing the desired curriculum and monitoring the tolerance threshold of the parental-child interaction so that both are mutually gratified (Barsh, 1967). The purpose of the curriculum is to help the infant reach his potential as a mature adult, and is based on the following two premises: 1) that parental attitudes are crucial to the developing infant, and 2) that the world comes to the child through the parents (Barsh, 1967).

It seems these trends toward infant curriculums are beneficial to the developing child and the interaction between the child and his parents. Barsh (1967) contends that a major effort is needed to advocate infant curriculums, because this state of development in the blind child is usually overlooked by most special agencies. In fact, the parental-child interaction has been overlooked by many special programs for the visually impaired, in spite of the fact that Fraiberg (1971) has found that the absence or failure of human connections will give the blind child an appearance of "the lost child" when not in direct contact with other adults or other children. The necessity of developing the primary attachment is strikingly important and necessary for the child to be able to navigate into other contexts as he continues to develop.

As the child continues to develop, his topography is expanded as he is introduced to new and ever-widening contexts via the family. How then does the presenting state, which includes a visual impairment, effect these transitions and how are locomotion and communication, as two developmental issues, negotiated? In both communication and locomotion, Neilson et al., (1975) have indicated that stimulation from the mother is the primary influence. In fact, without any verbal input, the child remains immobile, and fails to develop any "ties" with his environment (Fraiberg, 1975, Burlingham, 1965).

The Developmental Issue of Locomotion

Although Fraiberg (1971) found that adaptive hand behavior and gross motor achievement are impeded by the presence of a visual impairment, up until eight to nine months of age the child's motor achievements closely follow those of the sighted child, after which a developmental impasse may be reached (Fraiberg, 1968).

This impasse may result from the visually impaired child's inability to localize sound and to obtain directional cues for the source of sound (Fraiberg, et al., 1966).

Both tasks require complex adaptive solutions which the child may be unable to do, thus leading to a delay in gross motor achievement. This gross motor delay especially comes into focus when the child is physically able to propel himself forward--but doesn't (Halliday, 1970; Fraiberg and Adelson, 1975; Burlingham, 1965). Fraiberg and Adelson, (1975) suggest that the delay is linked to a problem in prehension in that until the individual can locate self in space, given only sound cues, he will not propel himself forward, Fraiberg (1968) also points out that in a few instances a visually impaired child will not creep at all. Like other possible delays (raising self to sitting position, pulling to stand, and walking alone), all involve some form of self-initiated mobility (Fraiberg and Adelson, 1975).

Although blindness is associated with a marked delay in the achievement of motor skills, it has relatively little impact upon postural achievements. Locomotor delays in the nonsighted child are often present since few young children in the first year of life can adequately substitute sound for sight as a distance sense. As a result of a prolonged period of immobility, a serious threat is posed to the ego development of the child (Fraiberg and Adelson, 1975). Mahler et al., (1975) agree:

> Walking seems to have great symbolic meaning for both mother and toddler: it is as if the walking toddler has proved by his attainment of independent upright locomotion that he has already graduated into the world of independent human beings. The expectation and confidence that mother exudes when she feels that the child is now able to "make it" out there seems to be an important trigger for the child's own feeling of safety and perhaps also the initial encouragement for his exchanging some of his magic omnipotence for pleasure in his own autonomy and his developing self esteem. (p. 74)

Mediation in Locomotion

To facilitate the early development of mobility skills, a few programs have been instituted. Fraiberg and Adelson (1975) who suggest that postural achievement in blind children tends to be on schedule while self-initiated mobility is usually delayed, base their program on uniting sound and touch. This is first introduced in the child/parent dyad and is later implemented in play experiences. The rationale for this preventive approach is that prolonged immobility seems to be a serious threat to the ego development of the blind child (Fraiberg and Adelson, 1975).

Although it seems a delay cannot be completely eliminated, Fraiberg et al (1969) have found that implementation of at least one planned program leads to decreases in the interval between postural achievement and self-initiated mobility.

In an educational program for blind infants, Fraiberg, Smith, and Adelson (1969) contend that the non-sighted child needs incentive and opportunity to develop motor skills. The major emphasis in the locomotion component of this particular program is to help the child obtain directional certainty so that forward motion may be facilitated. In addition, parents are given insight into the "special hazards" apparent in the early motor development of the young visually impaired child (Fraiberg et al, 1969).

Morris (1973) has also developed a program for the purpose of improving mobility and orientation skills. In this program, play and learning are combined in a play area that includes elements of: 1) touch, hearing, and spatial perception, 2) a strong emphasis on participation, and 3) a variety of sensory cues, so that the development of locomotor skills is facilitated.

All these programs are a step toward helping the non-sighted child understand his world better within an ecologically adapted environment. Each emphasizes participation and provides a great deal of support so that the child may actively negotiate this extremely important developmental issue with as little difficulty as possible.

The Developmental Issue of Communication

A review of the related literature on language development has suggested that, although a very complex task, the sighted child seems to develop speech naturally through contact, communication, and identification with persons and objects in the environment (see Speech, Language, and Hearing Disorders section). There is some evidence to support the fact that this is also true for children defined as visually impaired (Kirk, 1972; Umsted, 1975). Kirk and Umsted suggest that since much of language is acquired auditorily, the process of developing speech and language is the same for a visually impaired child as for a normally seeing child (Kirk, 1972; Umsted, 1975). Umsted, however, clarifies his beliefs by indicating that certain limitations do exist which can adversely affect the visually impaired child's language development. The limitations noted by Umsted include: 1) the child's inability to observe lip and mouth movements, and 2) a lack of physical or vocal stimulation in infancy.

Halliday (1970) points out that in order for the visually impaired child to learn language, the world must be deliberately shown to him, since the child is unable to observe much of it without help. Cazden (1968) believes that "what is important in language development is not a particular kind of parent-child interaction but simply the amount of well-formed speech that a child hears" (p. 135). This would seem to be particularly relevant in the case of the visually impaired, for through meaningful descriptions of the environment, the visually impaired child would be more likely to develop curiosity and motivation to move about, explore, and communicate with the object world (Burlingham, 1964).

Burlingham (1965) describes the visually impaired child's speech development in the following manner:

> ...the beginning of verbalization is delayed and later there is a dramatic forward spurt; that by the time they enter nursery school, they speak fluently and have a good vocabulary; that they use many words that are meaningless to them in imitation of the sighted; that they build up their own concepts gradually; that they use verbal contact in order to orientate themselves in space; that they collect information by means of questioning; finally, that verbalization of thought has a liberating effect on their development (as it does for the sighted). (p. 202)

With this in mind, it is possible to begin at birth and note the intricacies of the language of a child labeled "blind." In the first few months of life when normal infants begin to make visual contact with their surroundings, learn to distinguish between people, and familiarize themselves with things by means of sight, blind infants listen to the sounds of their environment, and begin to become knowledgeable about what is going on around them (Burlingham, 1964).

By three months the sighted child's speech is characterized by babbling (Van Riper, 1963). This, however, is not what happens for a child who has a visual impairment as part of his presenting state. Little or no babbling is found at this juncture, since no pattern of identification for experiences or persons has begun to develop (Burlingham, 1965). What the child seems to pick up, however, are: 1) sounds, and later words, which are meaningful to him as verbalization of his personal experiences and 2) words which are meaningless. The meaningless words refer to visual experiences the child has reference to from the verbalizations of his caretakers (Burlingham, 1964; Rogow, 1973).

From about six months and continuing throughout the language acquisition process, Burlingham (1965) suggests that the blind child's speech development seems to proceed along two lines:

> ...one which is their own and which they develop on their own, guided by their own intelligence and inventiveness, finding words for their own affects and body feelings and things heard, more readily than the sighted; and a second one which is personally strange to them but also highly cathected as being the speech of the seeing world, i.e., the type of verbalization shared with the parents. (p. 206)

Between the second and fourth years, as the blind child's vocabulary increases, it contains more and more words which are essentially meaningless since they refer to things of which the child has little or no knowledge (Rogow, 1973). Although the lack of knowledge about what words describe is frustrating to the blind child, the words are still spoken by people important to the child. For this reason and in a very adaptive manner, the blind child appropriates words of this kind and treats them as his own, though on a different basis (Burlingham, 1965, Haspiel, 1965). Such words, spoken without meaning by the blind child repeatedly, are often referred to as "parroting" (Burlingham, 1965). During this stage of language development, Haspiel (1965) describes the blind child's speech as being characterized by perseveration and "echolalia" (echoing words not understood).

Although the blind child eventually learns to speak fluently, develops a good vocabulary, and is capable of communicating and collecting information about his surroundings, much of the child's early speech is merely a "repeat" of what has been heard from others. The context in which the words are repeated, and the reactions of significant others in the environment may ultimately influence whether or not "meaningless" words begin to take on meaning for the child and the particular type of meaning.

The importance of being able to and wishing to use language is a driving force behind the process of learning. With a sighted child, speech usually comes naturally by contact, communication and identification within the primary system; but for a non-sighted child, the acquisition of speech may become a crucial developmental issue with profound consequences. As Burlingham (1965) states:

> Success or failure in this particular respect (communication), more than in any other area of life, will be decisive for his further course in life, his schooling, his professional training, in short, his acceptance as a member of the sighted community. (p. 202)

Mediation in Communication

In developing programs that focus on communication, it is important to recognize the profound role eye contact plays. Although we have already discussed eye contact in relation to attachment, communication processes are also affected by the lack of eye contact. Consequently, programs that have been instituted to facilitate the mutually beneficial exchange processes in the caregiver/child attachment relationship have another advantage in that the child's communication skills are also enhanced. The programs discussed earlier also focus on the development of communication skills. Fraiberg, Smith, and Adelson (1969) have discussed the link between attachment and communication in such a way that each is seen as dependent on the other. Communication, especially during the preschool years, involves many processes which directly affect attachment, in turn leading to the development of more complex communication skills. This interactional component of communication and attachment (i.e., exchange processes between caregiver and child) is very important for it is within these early years that a child's communication skills are most rapidly expanding.

The Developmental Issue of Active Manipulation

The process of constructing a body and/or self image represents yet another developmental difference between the blind and sighted individual (Scott, 1969; Sandlar, 1963; Fraiberg, 1968). As Sandlar (1963) points out:

> Because of the absence of a major sensory modality, the ego development of the blind child will tend to proceed along different lines from that of the sighted. (p. 344)

Major differences do not appear until between the 12th and 16th week after birth: discrepancies which do result are related to grossly diminished quantity and variety of stimulation from the outside world. According to Sandlar (1963), the outcome is:

> ...that all blind children (from birth) show a degree of fixation to the earliest phase of development, in which the passive experiencing of bodily gratification is dominant. (p. 359)

In other words, Sandlar contends that in any blind child there will be a probable pull toward self-centeredness. A visually impaired child, who usually has little or no experience with light or movement, must utilize other sensory modalities to compensate for the deficit. However, in the process of developing knowledge about the surrounding environment, hearing is only a partial substitute in the first few years of life (Sandlar, 1963). As a result, the blind child must constantly infer, because intentions expressed by gestures of caregivers are missed and shared meanings are often limited (Sandlar, 1963). Lowenfield (1938) suggests that supplementing auditory with tactual experiences is necessary for the blind child to transform abstract concepts into concrete experiences. Consequently, provision of manipulable objects now has the status of an axiom for very young visually impaired children.

Sandlar (1963) has also noted a tendency of visually impaired children to lack a real creative drive. This could be associated with the child's presumed lack of interest in the outside world, given that the child often turns experiences inward (pull toward egocentricity). The environment, however, may also be deficient in providing stimulating and creative experiences (Sandlar, 1963; Lowenfield, 1938; Burlingham, 1965). In fact, since many visually impaired children conceptualize the real world at first only as far as their arms and hands can reach (Halliday, 1970), the task of providing these environmental experiences becomes that much more monumental.

A blind child frequently turns to himself for stimulation. He begins to conceptualize the self with greater magnitude and significance than the non-self, resulting in an inordinate amount of egocentricity (Lowenfield, 1938). Frequently, this results in self-stimulation ("blindisms") which may take the form of poking eyes, ears, nose, etc. (Scott, 1969; Lowenfield, 1956). Blindisms, as discussed by Smith et al., (1969), are direct consequential behavioral syndromes related to the individual child's particular life situation. Smith et al., contend that "blindisms" will usually result from three environmental situations: 1) conditions of understimulation and deprivation, 2) problems of adaptation, learning and adjustment at transitional stages of development, and 3) reactions to disturbed parental-child relations. From the literature on "blindisms", it becomes apparent that they are essentially a self-stimulation signal that occurs when the individual is not getting an appropriate amount of feedback from the system. Unfortunately, since these behaviors are felt by most people to be repulsive, over time the child tends to become further isolated from the system. Self stimulation behaviors may continue to exist indefinitely if mutually non-beneficial exchange processes remain unchanged.

Part of the ego deformation apparent in blind children is linked to a delay in acquisition of ego defense mechanisms. Fraiberg (1968) suggests that "regression remains the chief defense of the young blind child..." (p. 298) in that visually impaired children will not fight back, but instead may throw tantrums in a gross discharge of rage with neither direction nor object that an adult can identify. It is important to note here that regression as a defense mechanism is characteristic of all individuals, especially in transition into different contexts or environments. Therefore, the fact that young visually impaired children regress frequently is understandable. Lacking vision as a sensory bridge to previous experience, many situations seem unique and novel and abrupt transitions are apt to precipitate unusual and "non-adaptive" behaviors.

With lack of appropriate ecological concern for the navigation of manipulative transitions, it can happen that:

> Blindness maintains the child in the condition of infantile helplessness for a perilously long period in the second and third years of life. (Fraiberg, 1968, p. 296)

This vulnerability and helplessness is also apparent in the drawn-out separation anxiety usually seen in the blind child (Fraiberg 1968, 1971). Thus, a presenting state which includes a visual impairment may lead to differences in the development of a self-concept within the primary system.

What happens when adjunct systems come into focus and how do individual differences in self concept lead to differences in the manner in which transitions are navigated amongst these novel adjunct systems? The unique way in which any child navigates transitions and is able to succeed in negotiating developmental issues strongly depends on the particular topography. If relationships within the primary system are such that love and support make up the majority of interactions, chances are transitions into ever-widening contexts will be much easier than if the primary system has a prevailing atmosphere of rejection and shame. For each child, although the issue is similar, the way in which it is negotiated may be profoundly different. With this in mind, it is possible to discuss the effect of a visual impairment on transitions into novel adjunct systems, primarily play behavior with other children and the preschool environment.

To begin with, interpersonal relationships with peers are often affected in that the child with a visual impairment has difficulty in "keeping up" with his sighted peers (Scott, 1969), a possible reflection of discrepancies in *verbal responses. However, although blind children show less vocal variety, tend to talk louder, speak at a slower rate, use gestures less efficiently, and use less lip movement than sighted children, they do not, in general exhibit serious problems in verbal responding (Brieland, 1950).*

In play behavior, a primary mechanism to interalize behaviors of others and for adaptation to life, the non-sighted child is severely handicapped. This is especially true throughout the sequences of play where vision plays a central role. For example, it is virtually impossible for a child to participate in unoccupied behavior or onlooker behavior, because of a basic inability to watch others play. This severely limits what a child may learn from play of others and is likely to interfere with later, more advanced play interactions.

As the child begins to play with other children (parallel, associative, and cooperative play), the visually impaired child faces yet another difficulty. The child may be unable to develop a repertoire of roles (grocers, policeman, fireman, Hanna housewife, etc.) because of limited experience in role playing parts (Scott, 1969). A visual impairment will most likely hamper participation in many cooperative play activities and lead to difficulty in understanding and following game-like activities (Scott, 1969). As a result, the blind child is deprived of sustained interaction with his own peers and finds that most knowledge will be mediated by and through adults rather than other children. The outcome is adult-like behaviors on the part of the child becoming manifest at an early age, along with a gross deficiency in peer group activities (Scott, 1969). Because of a lack of significant experiences with other children a visually impaired child will take a less active part in manipulating the environment, and instead will be actively manipulated primarily by adults. Consequently, Scott (1969) suggests that the visually impaired child thus loses the whole conception of a social game in that:

> *He grasps individual rules and norms, and he understands the actions of particular players; but his greater difficulty arises in organizing these impressions in a systematic fashion and from the point of view of the activity as a whole. (p. 1056)*

At the same time that the child and the environment are attempting to co-adapt and resolve significant developmental issues, two important socialization processes come into focus which tend to interfere with adaptation to the environment. First, a non-sighted child may develop perceptions of parental roles that are stereotypic. A child who cannot see may not be able to learn from other parents. Hence, the blind child tends to learn only the ideal and not the real from books and word-of-mouth communication which in turn may given the child a stereotypical (ideal) conception of parental roles (Scott, 1969). This tendency may be worked out during play if the caregiver has an understanding of this phenomenon and is able to communicate the real instead of the ideal to the child.

A second socialization process hard to convey to a non-sighted child relates to sex role and physiological differences (Scott, 1969). In this case, the members of the primary system must make an attempt to deliberately bring sex differences to the child's attention at an early age or he/she will be unaware of them until much older. A lack of basic understanding of universal differences may tend to put the non-sighted children that much further behind their sighted peers in understanding the world about them--further isolating them from the peer group.

Mediation in Active Manipulation

To facilitate growth and awareness through active manipulation, several programs have been developed. Tait (1972) has instituted programs that use play as an important tool in the development of the visually impaired child. Play as a focal point in education is used because it: a) helps the child understand concepts, b) assists the child in boundary testing, c) facilitates exploratory behavior, and d) provides a safe means for the child to deal with facets of life he doesn't understand (Tait, 1972). Through play, communication lines are kept open and information gathering is more an amenable learning experience than a task.

Another advantage of the use of play with non-sighted children (as well as sighted), is that through play, the child has the opportunities to release pent-up feelings such as tension, fear, anger, and loneliness (Moustakas, 1959; Axline, 1947). The manner in which play facilitates emotional growth is stated by Tait (1972) as follows:

> Play is the major single means of self-expression within the child's control and is an important outlet necessary for a healthy emotional growth and development. (p. 53)

It is important that the visually impaired child develop spontaneous play behavior to reduce tension and cope with frustration. It is equally essential *for efficacious adaptation to the formal educational process and for a better understanding of the world about him (Tait, 1972).*

Another important strategy used to help non-sighted children adapt to their environment, peers included, is the integration of visually impaired children into preschool. Bateman (1962) contends that integration will result in visually impaired children developing more positive attitudes about themselves. She advocates that a non-sighted child as a result may no longer consider himself a stereotypical "blind person", but instead a person first, and a person with a visual impairment second. Sighted children in the very early years perceive non-sighted children with curiosity, but essentially equally. This equality of treatment may lead to discarding the label influencing and redirecting self-concept (Carlson, 1975).

Wright (1974) also sees the importance of environmental factors and feels that blindness, as a single aspect of a person, cannot usefully characterize or categorize any individual. She favors environmental modification to significantly reduce the possibility of handicap, and to expand the realm of economic and social functioning of the visually impaired individual.

Many of the problems associated with the negotiation of several interrelated developmental issues for the child who has a visual impairment as a component of his presenting state have been discussed. Many of these difficult transitions and negotiations are directly related to differences and delays in the development of the individual's self concept.

The findings of several investigators who have begun to address some of these issues have been presented. Many have found ways to help members of the primary system become more understanding and efficacious in helping the non-sighted child resolve these issues. With attention to these crucial issues within the primary system, self-acceptance is much more likely to prevail. The child and family unit will have more of a chance to develop full potientiality. And this seems essential if visually impaired individuals are to be better able to navigate transitions and harmoniously adapt to the socioecological environments of which they are a part.

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TOWARD AN UNDERSTANDING OF SPEECH, LANGUAGE AND HEARING DISABILITIES

Don Kingery

OVERVIEW

One of the most remarkable and certainly one of the most important aspects of human behavior is the ability to learn and use language. A common language among individuals is the cement which binds a society together.

The acquisition and manipulation of oral sounds, and later of language and speech, becomes an immensly important facilitating tool which has the potential of opening new environmental contexts.

> We think of language as serving two major functions: (1) as a system of responses by which individuals communicate with each other (inter-individual communication); and (2) as a system of responses that facilitate thinking and action for the individual (intra-individual communication). (Carroll, 1964)

One of the first examples of inter-individual communication may be seen during the early months of life when the infant begins to learn that he can effect changes in the primary system simply by making crying, babbling or cooing sounds. Soon after the initiation of these sounds, mother, or some other member of the primary system, may attend to his vocal behaviors, thus affecting a major positive change in his immediate environment (Menyuk, 1972). Later, this knowledge, coupled with the infant's seemingly innate ability to approximate the utterances of others, may be the major initiator of "true speech" (Murai, 1963 - 1964). Intra-individual communication, that is the relationship and interaction between cognitive processes and language can be visualized from Wepman's (1976) model of Vygotsky's (1962) concept of the relationship between thought and language (Fig. 1).

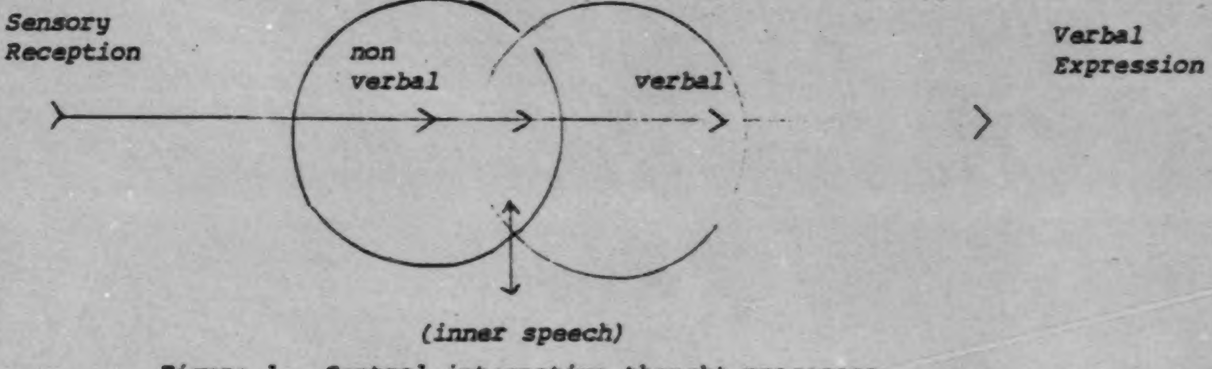

Figure 1. Central integrative thought processes

> As expressed in the figure, thought processes are seen as both nonverbal and verbal. Thought is seen essentially as the intellectual, emotional, attitudinal internalized higher mental process. Language is seen as the essential acquired or learned capacity for expression of thought through verbal symbols. Inner speech--the overlapping of the two circles--is the attempt by man to put into verbal form the feelings, ideas, and attitudes produced by his conception of the universe. (p. 132)

Thus, language becomes an intra-individual facilitator for thought, and thought becomes an intra-individual facilitator for language (Beilin, 1975). The term language may be generally defined as an arbitrary set of symbols and a set of operational rules for combining those symbols for the purposes of communication. Speech, then, is the oral-aural mode of transmitting language (Deese, 1970). Obviously, for the completion of this communicative chain of events to occur, a listener must be involved (Denes and Pinson, 1963).

Since the acquisition and use of language must be inferred from the speech of the child, it is not altogether clear as to how this extremely complex internal skill is mastered. The evidence available suggests that language is acquired by nearly all children during roughly the same amount of time, and that this skill is accomplished without deliberate intervention on the part of the linguistically competent members of the child's primary or adjunct system (Rosenberg, 1968).

Two major theoretical positions have been taken to account for the acquisition and development of language: Learning theory (Skinner, 1957; Mowrer, 1954; Dixon and Horton, 1968; Carroll, 1964; Bricker and Bricker, 1974) and Generative linguistic theory (Chomsky, 1957, 1965; Brown and Bellugi, 1964; McNeill, 1966; Lenneberg, 1967). Without detailing the differences between these two positions, it can be said the Learning theorists ascribe the acquisition and development of language to a process of classical and operant conditioning. The behavioralist approach minimizes the importance of native endowment in the use of language. The Generative theorists, on the other hand, propose that the child is born with an innate capacity to learn language. With adequate exposure to speech, the child will develop his own hypotheses about the nature and structure of language, and through a process of hypothesis testing, *will eventually learn his native language (Jacobovits and Miron, 1967).*

Irrespective of how the child learns language, the fact that most children do is quite remarkable considering that in order to use language the child must somehow learn (1) the sound system of the language (phonology), (2) the way sounds are combined to make words (morphology), (3) how the words are combined to make sentences (syntax), (4) and what the words and word combinations mean (semantics).

The Emergence of Spoken Language

In a period of less than ten years, the normative child will functionally master the comprehension and expression of his language, although the accuracy and complexity of his expressions will continue to develop throughout his life time (Berry, 1969). The normative data suggests that the child will be capable of correctly articulating all speech sounds of his language by the age of eight and will have learned the basic adult syntactic structures by the age of four years (Menyuk, 1972). Research indicates that comprehension of language preceeds expression with evidence of minimal understanding being seen at 8-9 months of age (Freidlander, 1968, 1970).

At birth, the infant is capable of producing sounds and responding to acoustic events. The initial sound production stage consists of the birth cry and reflexive vocalizations. Since there is no evidence that these early sounds have any linguistic significance, they are considered to be responses to physiological states of the organism. As such, hearing does not appear to play a part in this early productive process. However, infant speech perception studies have provided evidence that as early as one month of age, and perhaps earlier, infants respond auditorally to speech sounds in a different way than to non-speech sounds (Moffit, 1971; Morse, 1974; Eimas, et al, 1971). Relatively recent research indicates that the fetus responds to acoustic stimuli and that its auditory system is fully developed at birth (Zemlin, 1968), whereas the vocal tract of the newborn is physiologically incapable of producing most speech sounds (Lieberman et al, 1972). Since the production aspects of speech-like sounds do not occur until the 3-6 month vocal play stage, the current belief is that early auditory exposure to speech as well as anatomic maturation are necessary influences for later speech sound development.

Prelinguistic stage

By three months, and extending in a progressive manner toward speech sound production through six months of age, the infant enters the vocal play or babbling state. During this phase, the infant seems to respond positively to the sound and feeling of his own vocal utterances (Van Riper, 1963). Beginning at approximately six months, the infant's babbling becomes more repetitive, thus indicating that the infant is hearing his own sound production and is attempting to imitate that which he has heard (self-stimulation).

The significance of the babbling stage should not be viewed as the early beginnings of speech but rather as an oral-aural coordinating stage in which the child begins to link and consciously control the respiratory, phonatory and articulatory systems to produce sound. In spite of the fact that speech-like sounds are beginning to emerge from relatively undifferentiated reflexive vocalizations, it should be remembered that all that the neonate is demonstrating is an ability to vocalize the forty odd phones which will later comprise the speech sound of the English language. Initially, these sounds are not recognizable as belonging to any one language, but with time, drift toward the sounds of the child's primary and adjunct system. Until these sounds are employed in speech to make differences in meaning, they should not be interpreted as early development of the linguistic code.

Around seven months, supra-segmental phonemes (intonational and stress patterns) begin to emerge. At this same point in time the child begins to show social behavior by responding to the speech of others with his own vocalizations, which tend to be gross imitations of sounds, words and inflectional patterns.

It has frequently been observed that these intonational patterns expressed by the child reflect emotional states. Chase (1966) purports that at this developmental milestone the child possesses:

> a disproportionate capability for communicating information about affective stages, to be supplemented at a later stage in development by proportional capability for the communication of more objective categories of experience, such as the operations of logical thought.

Between eight and nine months, it is evident that speech comprehension has begun to develop, with normative children responding to simple words and commands from adults. The first true word generally appears around a year of age.

We will briefly discuss certain functional issues which give rise to the developmental outcome of language.

Linguistic stage

At the year landmark, the infant has progressed from a prelinguistic vocal stage of development to a linguistic stage. Between 12-15 months, comprehension of speech expands rapidly, although production is still at a 1-50 word stage of development.

With the emergence of the first word comes a stage of development known as the "holophrase." Menyuk (1969, 1971) indicates that these single word utterances may be classified as part-of-speech members as evidenced by varying intonational patterns, thus implying an underlying sentence structure. Although controversy exists (Ingram, 1971), the holophrastic utterance may be viewed as the first primitive syntactical stage. When the child utters the word "cookie" it is hypothesized that he cognitively wishes to express the idea of "Give me a cookie," "Is that a cookie?" etc.

By approximately 24 months the child will have an expressive vocabulary of approximately 300 words and will begin to combine these words to make two word sentences. This process was first described as the "open-pivot" stage of linguistic rule development by Braine (1963). During this primitive expressive stage, a frequently produced, small set of words (pivots) are attached around a larger, less frequently used set of words (opens). The open word class expands rapidly while the pivot words expand at a much slower rate (McNeill, 1966). In addition, open class words are able to function as single word utterances, occur in either the critical or final word position of the two word utterance, and combine with other open class words. The pivot words, by contrast, occur in either the initial or the final position but never in both, and cannot stand alone as a single word utterance or be combined with other pivot words. Although Braine's model has been criticized as inadequate (Bloom, 1970; Bowerman, 1973; Brown, 1973) it does offer a descriptive explanation of the initial stage of two word syntax as well as account for early vocabulary growth. The two-word open-pivot sentences and later development of three word sentences have also been described as "telegraphic" speech (Eisenson et al., 1963), since the child typically eliminates articles, conjunctions, prepositions, auxiliary verbs and pronouns while retaining nouns and verbs. However, most children during this stage are able to communicate message and meaning to experienced and sensitive caregivers in familiar contexts of functioning.

Between the second and fourth year of life, the child's language facility begins to rapidly expand. The mean sentence length, grammatical complexity and number of vocabulary items all increase. The normative three year old child will express nearly all the parts of speech that the typical eight year old child will express and will have an expressive vocabularly of approximately 900 words. In addition, the 3-5 year old child will have abstracted the major grammatical principles of adult speech although he will typically have many incomplete sentences and grammatical errors in his utterances (Berko, 1958). It is sometime between the second and fourth years of life that negative (Klima and Bellugi, 1966) and interrogative (Brown, 1968) syntactic structures emerge in the child's expressions. Between this 2-5 year period, the speech behavior of the normative child may be viewed as egocentric, corresponding to the cognitive developmental egocentricity of Piaget's stage of pre-operational thought. That is, the child will engage in a verbal process typified by repetitive or echoic utterances, monologues and collective monologues, which tend to be noncommunicative in nature.

> The central concept of Piaget's analysis...is the concept of egocentrism. The young child is the unwitting center of his universe. Only his point of view can really matter, for he is unaware that there are other points of view. Piaget's later investigations convinced him that egocentrism is a pervasive characteristic of cognition in the preschool years. (Dale, 1976, p. 251)

Hass and Wepman (1969) hypothesize that egocentric speech may be a result of the child's inability to change underlying meaning into adult syntax. Vygotsky (1962) discussed egocentric speech as a form of verbal self-guidance and speculated that rather than diminishing with age as Piaget believed, egocentric speech becomes a covert subvocal process (inner speech) which serves to connect underlying thoughts with corresponding words.

The speech sound development of the normative child will not be consistently accurate until the eighth year of life (Templin, 1957). Developmentally, it appears as though vowel sounds precede the acquisition of consonant cluster sounds.

For consonant sounds, the order of acquisition appears to be nasals, plosives, semivowels, fricatives and consonant clusters. The position of the sound within the word also effects its ease of correct production. Initial and medial consonant sounds are produced more accurately than are final consonant sounds.

Summary

The above description of language acquisition and usage has been presented primarily through a developmental perspective. That is, normative data of infants and children five years and younger provides a remarkably uniform sequence of language development. This, however, should not be taken as a normative model from which to compare individual children. Lenneberg (1967) sites studies of children who, for one reason or another, have significant deviations from the normative developmental model and yet acquire and use language in a typically normal manner at a later date.

So it is with normative adaptive behavior in young children. The range of diversity even among children we consider "normal" is very great. As Murphy and Moriarty (1976) note:

> all studies of growth show that many children have growth irregularities and that the "normal" or average pattern of growth at comparable rates in every aspect of physical and mental development is actually rather unusual. Systematic detailed analyses of Gesell tests and other tests of infants have shown that some children are considerably ahead in certain systems and behind in others: for instance, some children are ahead in social functioning but behind in motor functioning, or ahead in social and language functioning but behind in the adaptive functions that make it possible to handle the stimulation to which their social and language precocity exposes them. (p. 6)

We will continue to consider differences in individuals as well as differences in socio-ecological environments as being both valuable and essential to the process of achieving an adaptive fit.

THE PRESENTING STATE OF THE ORGANISM

In order to determine the physiological "at risk" stage which may exist in terms of impairments to the speech, language and hearing mechanisms, it is necessary to recognize that speech is both an achievement of and tool for organized social interactions.

The taken-for-granted presence of speech tends to obscure our view of the many levels of organization whose harmonious functioning makes the accomplishment of speech possible. Various levels of the nervous system, as well as the morphology of the respiratory, phonatory and articulatory systems, share in this process. But speech is clearly a human process; it is a social accomplishment evidenced on the socio-ecological level of situated functioning. As in our previous discussion of levels of organization, a disturbance in the integrity of any level will radiate to other levels.

In that most disturbances in speech seem to involve problems on the socio-ecological level, particular attention must be paid to the developing child's relation to his primary and adjunct systems.

Attempts to deal with the relation of speech to situated functioning are found in recent work in socioloinguistics (e.g. Bernstein, 1971; Hymes, 1964; Gumperz and Hymes, 1972) and ethnomethodology (e.g. Gumperz and Hymes, 1972).

THE COMMUNICATION SYSTEM AS "AT RISK"

Presenting State

Having described the normative development and use of speech in children 0-5 years of age, as well as the normative systems which allow this behavior to take place, it is now our task to describe the presenting state of the organism as "at risk" for this same behavior.

Before identifying the wide variety of disabling conditions which can impair the production of speech, it should again be stressed that the process of communication not only depends on the successful acquisition of the language and the successful integration and use of the anatomical systems involved in the reception, integration and production of speech, but also on the interactions which take place between the child and the primary system and later between the child, primary system and adjunct system. In other words, it is important to realize that a speech disability is created and advanced by the internal processes within the mind and body of the child as well as by actions and reactions of others. Examples of this interacting process will be discussed later. For the present it is convenient to first describe those disabling conditions which arise within the child and later those which arise as a reaction to the primary/adjunct system.

The presenting state of the neonate may or may not be initially identified as "at risk". Prenatal factors such as cleft palate (Bzoch, 1972), cerebral palsy (Perlstein, 1950), blood incompatibilities, metabolic disturbances, anoxia, maternal infections and exposure to environmental toxins; and natal factors such as brain damage during and following birth, prematurity, infections and poisoning, etc., may signal an immediate or early warning of a presenting state of "at risk" (Ehrlich et al., 1973). Congenital or acquired hearing impairments, while not necessarily immediately apparent, may be detected within the first six months of life and signal an "at risk" condition. The presenting state of the organism may consist of none, one, or several combinations of the above "at risk" states which may later affect the normal development of the organism. Since evidence of language does not become measurably apparent until the first anniversary of life, and the development of language and speech is a continuous process which will take many years, "at risk" states may not appear or be detected until the child is several years of age. It is for this reason that developmental milestone data is of extreme importance in assessing the progress of the maturing infant.

A wide variety of disabling conditions have been identified which affect the child's ability to receive, process and formulate, and express speech. These disabling conditions may be arbitrarily grouped into two broad etiological categories: organically based, and non-organically based. These two major categories may be subdivided into conditions which effect the hearing mechanism, the language system and the speech system. In general, however, the disabling condition and the effected system will usually affect the production of speech. Therefore, all disabling conditions of the auditory, speech or language system may be generally defined as speech disabilities.

The determination that an "at risk" state is present may be readily apparent and easily determined, or it may be so subtle as to require a primarily subjective opinion on the part of the diagnostician/facilitator. Following the guidelines established by Berry and Eisenson (1956):

> . . . objectively, speech may be considered to be impaired (at risk) if it is characterized by any of the following to a significant degree:
>
> 1. It is not easily audible.
>
> 2. It is not readily intelligible.
>
> 3. It is vocally unpleasant.
>
> 4. It deviates in response to specific sound production.
>
> 5. It is labored in production, or lacks either conventional rhythm or stress, tonal quality, or pitch change.

6. It is linguistically deficient.
7. It is inappropriate to the speaker in terms of age, sex, or physical development.
8. It is visibly unpleasant.

> . . . subjectively, an individual's speech is defective if more attention is paid to how he speaks than to what he says.

It is beyond the scope of this project to detail specific disabilities which affect the speech system. However, it is important to stress that a wide variety of organic and non-organic disabilities may have a profound influence on the child's ability to communicate. With this in mind, a general listing will be offered of the major pathological conditions organized according to the system which they effect.

1. The neurological system Any disruption or impairment of the nervous system may affect the communicative process (West, 1971). Disorders specific to the neurological system may affect the input of sensory data as in agnosia and result in impaired recognition of stimuli (Schuell et al., 1964). Impairments to the central processor may affect the ability to decode, process and encode linguistic information and result in aphasia (Myklebust, 1971), confused language, generalized intellectual impairment (Matthews, 1971), and minimal cerebral dysfunction (Strauss et al., 1955; Eisenson, 1968). Impairments to the output neurological system may disrupt the movements and functions of the articulators as well as the integrated functioning of the respiratory and phonatory system, and result in apraxia (Darley, 1964) or dysarthria (McDonald and Chance, 1964; Darley et al., 1969).

2. The respiratory system Disorders of speech which result primarily from the involvement of the respiratory system are relatively rare and, when present, are generally viewed as life threatening conditions. Obstructions in the lungs and trachea or reduced lung capacity may result in an inability to provide enough air power for phonation. More commonly, pathological conditions affecting muscular coordination, movement and strength (cerebral palsy) may be seen as conditions which affect the respiratory system (Blumberg, 1955; Hardy, 1961).

3. The phonatory system Disorders of pitch, quality and loudness may result from a variety of organic and non-organic conditions. Voices which

are too high, too low, too limited in range, or which are unstable come under the general description of pitch disorders. Harsh, hoarse, and breathy voices are generally considered to be quality disabilities. Voices which are too loud or too soft are generally referred to as loudness or intensity disorders. In general, any condition which alters the normal length, elasticity or mass of the vocal cords or which affects the tissues of the larynx and vocal folds may produce phonatory irregularities (Boone, 1971; Moore, 1971).

4. The articulation-resonance system Obstructions of the upper respiratory tract such as enlarged tonsils or adenoids, structural deviations such as clefting of the palate and velopharyngeal insufficiency (Shover, 1945; Morris, 1972) or deviations in the size, shape, position or movement of the articulators such as lingual defects, or dental anomalies (Bloomer, 1971) may affect the articulation and resonance of speech production.

5. The auditory system Due to the importance of the auditory system as the primary sensory input channel for the development and use of speech, we will present a slightly more detailed discussion of the effects of auditory disabilities.

While a variety of names and definitions have been proposed to classify "at risk" hearing conditions, the definition proposed by the 1937 Committee on Nomenclature of the Conference of Executives of the American Schools for the Deaf, is widely accepted:

> *The deaf: Those in whom the sense of hearing is nonfunctional for the ordinary purposes of life. This general group is made up of two distinct classes based entirely on the time of the loss of hearing: (a) The congenitally deaf: Those who are born deaf. (b) The adventitiously deaf: Those who were born with normal hearing but in whom the sense of hearing becomes nonfunctional later through illness or accident.*
>
> *The Hard-of-Hearing: Those in whom the sense of hearing, although defective, is functional with or without a hearing aid.*

While recognizing the limitations and drawbacks inherent in any "all encompassing" definition such as the one presented, a definition does serve to orient the reader to the terminology which is widely employed. Regardless of definition, when considering educational and mediative intervention strategies, it is important to examine the functional level and potential of the individual, rather than simply the degree of hearing loss. Griffing (1970) suggests that hard of hearing children be evaluated according to educational potential and offers the following seven descriptive parameters:

1. Onset of hearing loss.
2. Extent and configuration of the hearing loss.
3. Auding ability (interpretative function in utilizing residual hearing).
4. Nature and extent of delayed speech and language development resulting from the hearing impairment.
5. Developmental growth potential in the areas of receptive and expressive communication skills.
6. Potential for learning (intelligence, emotional status, social maturity, level of educational achievement, motor development and perceptual level).
7. Existence of secondary handicapping condition.

The effect of a hearing loss may be of a profound or a minimal nature depending upon the parameters offered by Griffing. In addition to, or perhaps implied within those parameters, is the affect of the primary and adjunct systems on the development of the hearing "at risk" child. If the amount of hearing loss is extensive, the child may not be able to hear the spoken language of his environment and consequently will not develop speech unless special intervention services and special environmental transitions are provided. In addition to possible delayed and/or disordered language development, disabilities of the auditory system may result in misarticulated speech sounds and abnormal pitch-loudness-quality of the voice. Given the importance of hearing to the development of speech and language skills, it is absolutely essential that "at risk" infants with potential hearing disabilities be identified as early as possible (Elliott and Armbruster, 1967; Tervoort, 1964).

Two major medical classifications of hearing loss are commonly discussed: (1) conductive disabilities due to malfunctioning of the mechanical system within the middle ear and (2) sensorineural disabilities due to lesions within the cochlea or anywhere along the neural pathway leading from the cochlea to the cortex of the brain. In addition to a purely conductive or purely sensorineural disability, a "mixed" type of loss may exist consisting of both a conductive and sensorineural component.

6. *Primary-adjunct system contributions to "at risk" states* Since the majority of children identified as speech disabled do not exhibit identifiable concomitant organic pathologies, it has been necessary to identify causality with learned or environmental factors, that is, those factors involving the

interactions of the child, primary, and adjunct system, which result in disabling conditions (Powers, 1971). Imitation of primary system speech patterns may account for a large number of these speech and language deficits (Myklebust, 1954).

> Children learn to speak--to use language, to articulate, and to vocalize--by ear. If what they are exposed to hear is faulty, and if they have no reason to have a negative attitude toward what they hear, they will learn to speak with the faults of their environment. This, it should be emphasized, is normal adaptive behavior. (Berry and Eisenson, 1956).

Perhaps the largest category of speech disabilities to fall within the primary system etiological domain are the so-called functional articulation errors (ASHA, 1952). Van Riper (1963) categorized these nonorganic misarticulation disabilities into five areas: infantile perseveration, lalling, lisping, delayed speech and oral inaccuracy. In a review of research studies examining causative factors and environmental influences on misarticulations, Winitz (1969) suggests that lack of time spent by the parent with the child, the reinforcement of misarticulations by siblings, and permissive attitudes on the part of parents toward misarticulated speech of children may contribute to the development of this disability.

Fluency disabilities in the form of stuttering have been investigated as reactions to primary system stress. Etiological theories have discussed the personality of the primary caregiver as being perfectionistic, overdemanding or neurotic (DeHirsch and Langford, 1950; VanRiper, 1971). It is conceivable that the personality traits and resulting behaviors of the primary caregivers create "at risk" conditions by demanding fluent speech production during a developmental period when speech is marked by hesitations, repetitions and prolongations (Johnson, 1959). The failure of the child to satisfy these demands creates internal reactions which serve to further disrupt the forward flow of speech. In this way, a cyclic condition is created in which perfectionistic parental demands create an anxious attitude within the child toward speaking situations. The anxiety associated with speech makes fluent production more difficult and results in an inability to live up to the caregivers expectations (Brutten and Shoemaker, 1967). Eventually, the child will hear the term "stuttering" used to describe the way in which he speaks and will begin to think of his master status as that of a stutterer (Johnson et al., 1942). The adjunct system contributes to this master status role by valuing communi-

cation skills and rejecting those who have communicative disabilities. An approach-avoidance situation is thus created: the child wishes to speak but knows that he will have fluency problems if he does. These fluency disabilities will result in adjunct disapproval. Conversely, the child may wish to remain silent to avoid stuttering and the resulting disapproval, but in so doing, he knows that he will not be able to verbally communicate (Sheehan, 1953, 1958).

Voice disabilities are often attributed to primary system stress. An "at risk" condition occurs when the child finds it necessary to shout or speak unusually loud in order to gain attention from others or to make himself heard. If this condition continues for any length of time, the vocal cords will begin to fatigue and become irritated. Eventually this undue stress on the cords can create a pathological condition. Adjunct systems can also contribute to the creation of vocal pathology. Contaminants in the air may act as irritants to the respiratory pathway and result in voice disorders. Environmental noise may be so intense as to require chronic misuse of the voice in order to talk above the din. Sex-role stereotyping by television and motion pictures often portrays the masculine figure as deep voiced and the feminine figure as breathy voiced. Children identifying with these characters may chronically misuse their voices.

Dialectical speech patterns may be viewed as positive facilitators or dead-end states depending upon the nature of the dialect and its degree of acceptability as judged by the adjunct system. The regional dialects of Presidents Kennedy and Johnson, while different from each other and different from Standard American English dialect were positively facilitating in that the adjunct system did not view them as "at risk" conditions and therefore, accepted them in spite of their "dialectical differences." However, controversy exists when viewing other dialectical forms. One direction of research has been to compare the educational development and language usage of economically disadvantaged and language different populations with middle-class white peers. Much of this research might lead one to the conclusion that certain dialectical differences result in dead-end pathways in which the child will be unable to make the necessary transitional moves from his culture to the general culture due to his lack of competence for speaking Standard American English. Williams and Naremore (1967) examined dialect as an indicator of low socio-economic status and found a high correlation between dialect and income level. Further research found that the dialectical language systems of low socio-economic level children contributed to poor comprehension of language, reduced vocabulary, inarticulate speech production and syntactic deviations. These dialectical differences have lead some to further speculate that cognitive ability resulting from dialectical differences may also be impaired (Bernstein, 1960; Gussow, 1965; Bereiter, 1965; Cazden, 1966, 1968; Gerber and Hertel, 1969). From this point of view, then, language dialects may have a negative influence since they may limit both social mobility and intellectual potential.

Contrary to the limiting view of dialect difference is the position that a dialect is the language of any particular segment of a population and therefore is no better or no worse than any other dialect (Baratz, 1968, 1969). This view holds that any dialect is an effective linguistic system for communication within the specific cultural environment. Individuals using this dialect are generally capable of adequately expressing their thoughts and comprehending the thoughts of others within that population (Dale, 1976).

Auditory disabilities resulting from adjunct system interactions are becoming more and more common in industrial society (The economic impact of noise, 1972). Environmental noise pollution arising from machinery and amplified music is creating an "at risk" state for both city and rural dwellers. Long term exposure to loud sound may damage the sensorineural hearing mechanism and create irreparable hearing impairment (Bohne et al., 1973).

Examples of other speech disabilities and their relationship to the primary and adjunct systems are abundant in the literature. In general, speech disabilities may result from learned or emotional factors brought on by primary system demands or behaviors. Personality changes due to the acquisition of a master status of speech disabled will compound and complicate the original condition. In situations where the presenting state of the organism is "at risk" due to organic involvements of the speech system, the progress of the disability will be largely influenced by the attitudes and behaviors of the primary and adjunct system members.

MEDIATION STRATEGIES

Assessment and Instrumentation

The assessment of a child's speech-language abilities and his auditory system is usually performed by a certified speech pathologist and audiologist.

Assessment procedures are performed to: (1) contribute in making a medical diagnosis (what is wrong with the child and where is the location of the disorder), (2) estimate how well the child will be able to compete with his nonimpaired peers (does the child appear to need special educational training or therapy), (3) screen large numbers of children in a quick and efficient manner to identify possible impairments and to make referrals for further evaluation and (4) monitor the development and progress of the child so that further attention can be given if the child does not seem to be developing in a normative manner (Davis, 1970).

Audiological Assessment

The audiologist performs assessments primarily through the use of electronic audiometry. For the child of three years or older, variations of pure tone audiometry and speech audiometry are used to determine the sensitivity of the ear as well as to measure the child's ability to discriminate speech material (Myklebust, 1954).

Infants between 0-3 years may also be assessed for auditory impairments. These infant screening procedures may include eliciting a startle response, waking response or orienting response as well as employing electrodermal or electroencephalic audiometry. Silverman and Davis (1970) suggest that all hospitals and related medical facilities adopt an infant screening program in which all children are examined before the age of one year, and that children diagnosed as "high risk infants" be examined every three months for the first two years of life.

Speech and Language Assessment

The speech pathologist employs commerical or self made assessment materials to identify and measure the degree of speech and/or language impairment. The assessment tools to be used will depend upon the type of presenting disorder, type of information desired, age of the child, the ability and/or willingness of the child to respond to the instrument as well as a variety of other factors. Language assessment tests may examine either expressive or receptive language or both, as well as related language skills. Some tests are of the informant type and do not require responses from the child whereas others require direct participation. The articulation tests mainly examine the ability of the child to produce the phonemes of English speech.

In addition to the administration of speech and language tests, the speech pathologist is also interested in assessing motor coordination abilities as they relate to the speech musculature, intellectual level of the child, sensory acuity, discrimination abilities as well as a variety of other speech-language related skills (Sanders, 1970).

The following list of assessment tools is presented to give the reader a representative sample of available testing instruments.

Tests for Language Ability and Development

Verbal Language Development Scale (Mechan, 1959)
Receptive-Expressive Emergent Language Scale (Bzock and League, 1971)
Utah Test of Language Development (Mechan et al., 1967)
Houston Test of Language Development (Crabtree, 1958, 1962)
Peabody Picture Vocabulary Test (Dunn, 1969)
Full Range Picture Vocabulary Test (Ammons and Ammons, 1948)
Quick Test (Ammons and Ammons, 1962)
Northwestern Syntax Screening Test (Lee, 1969, 1971)
Michigan Picture Language Inventory (Lerea, 1958)
Illinois Test of Psycholinguistic Abilities (Kirk et al., 1968)
Barry-Talbott Language Test (Berry, 1969)
Bellugi-Klima's Language Comprehension Test (Bellugi and Klima, 1971)
Developmental Sentences Types (Lee, 1966)
Developmental Sentences Scoring (Lee et al., 1971)
Communicative Evaluation Chart from Infancy to Five Years (Anderson et al., 1964)
Denver Development Screening Test (Frankenburg et al., 1967)
Zimmerman Preschool Language Scale (Zimmerman, 1969, 1970)
Language Assessment Scale (Bangs, 1968)
Length Complexity Index (Miner, 1969)

Tests for Assessing Articulatory Ability and Development

The Templin-Darley Diagnostic Test of Articulation (Templin, 1969)
Iowa Pressure Articulation Test (Morris et al., 1961)
Developmental Articulation Test (Sanders, 1970)
Photo-Articulation Test (Pendergast et al., 1969)
Deep Test of Articulation (McDonald, 1964)
Fisher Logemann Test of Articulation Competence (Fisher, 1971)

Goldman-Fristoe Test of Articulation (Goldman, 1969)

The Arizona Articulation Proficiency Scale (Barker, 1963)

Accurate and meaningful assessment, of course, is related to the competency of the examiner, the degree of comfort of the child in the assessment situation, and the degree to which the instrument represents the reality of the day to day language which the child encounters--in short, the socio-ecological environment of which the child is a part.

Selected Aspects of Mediation

Developing mediation strategies may require the coordinated effort of a variety of facilitators, including the disabled child and the primary caregivers.

> The parents and their disabled child must be the center of the team, for in the first place, no matter how wise, observant and able the professional is, he will never be as familiar with the child as is his family. . . . If made an equal part of the evaluative and remedial team, parents will make willing and capable therapists and they will carry out their charge, in most cases, with the tender loving care that many professionals do not have the time for. The logic lies in the fact that since they will be doing for their child anyway, would it not be advantageous, for all, to teach them the right way? (Buscaglia, 1975)

Prior to the development of any intervention strategy, a full diagnostic work-up should be performed. This work-up may include a medical diagnosis, treatment history and psycho-educational reports. Once this material has been compiled and discussed, therapeutic intervention plans can be developed. Because the subject matter of this chapter has been aimed at the disabilities of speech, language and hearing, intervention strategies will be examined from the view-point of the communication specialist.

From the adaptive behavior perspective, the facilitating process must be designed for possible intervention within four interacting environmental contexts in order to minimize the "at risk" state of the child and to maximize the potential for change in an adaptive system, the transitional state, and the clinical system. Since each child will offer unique presenting states and environmental situations, the decision as to where and when to intervene and what type and amount of intervention is necessary will have to be made in relationship to an ongoing diagnostic and evaluative process. The facilitator may find that primary system intervention alone will be sufficient to deal with the "at risk" condition and thus may not have to become involved in dealing with the other contexts. In other circumstances, intervention may be necessary in all four or some combination of these contexts. With this in mind, we will describe some intervention strategies involving all four contexts.

The Primary System

The primary caregivers, in most instances, fully expect to give birth to and raise "normative" children. If the presenting state of the organism is viewed as "at risk", it often presents the primary caregivers with a situation with which they are unable to cope. They may react by denying the existence of the problem, by rejecting the child, by reorganizing the primary system to meet the present and future needs of the "at risk" member, or by temporarily reassigning the child to the care of an institution which they perceive as better equipped to deal with the presenting problem. In most crisis situations, the feelings of guilt and helplessness pervade the primary system atmosphere. Since it is usually during this crisis period that the primary system first turns to a facilitator for assistance, there is good reason to believe that the intervention strategies employed will have a major impact on the developmental outcomes of the presenting state.

> This draws our attention to. . . discontinuity in development or experience which upset the equilibirium of the individual and exposes him to the risk of adopting solutions that are dangerous for his future mental health. . . . Those who emerge weakened, relying more heavily. . . on . . . maladaptive defenses, may well have been predictably more vulnerable at the outset although. . . (there is) reason to believe that the quality of social interaction during the crisis period can often have a decisive effect on the outcome. . . . It also seems likely that disturbed relationships within the family, especially but not exclusively between the child and his mother, will enhance his vulnerability to most kinds of stress. (Buscaglia, 1975)

In instances where the presenting state of the organism is identified at birth or very shortly thereafter as being potentially "at risk," the facilitator(s) may intervene to minimize any potential negative developmental outcomes. A good example of a total intervention program which has just such an effect is the program which deals with cleft palate disabilities.

Parent organizations have been established which serve to support, educate, and improve services for cleft palate children and their families (Lipski and

Pannbacker, 1974). Soon after the birth of the child and the identification of the presenting state of cleft palate, members of these organizations visit the recuperating mother. Their task is to relieve the emotional reactions of the mother and to provide her with information about the disability and available services.

Shortly thereafter, a cleft palate team will examine the child and make recommendations for immediate and future surgical, dental, psychological and speech intervention. Since middle ear infections are often associated with this disability, medical and audiological services may be recommended (Stool, 1972). At some point in time, the speech pathologist will examine the oral structures to evaluate their effectiveness for speech and make recommendations for future speech therapy. Psychological and genetic counseling may be provided to further support the primary system members. Social workers or nurses may be assigned to visit the home of the child and provide ongoing evaluations of the growth and development of the child and the primary system. In this way, medical, educational, and emotional support is provided to both the child and the primary system with the expressed purpose of maximizing a positive developmental outcome.

The majority of speech disabilities are not associated with "organic" pathologies and therefore may not be identified until the child is approaching school age. In these instances, it is presumed that factors involving the primary system are an issue in the development and maintenance of the particular disability. By the time intervention occurs, the disability has already become established and the factors which contribute to the disability have presumably existed for a relatively long period of time. Facilitation, in these cases,presents a challenging problem.

Once the determination of a functional speech disability has been made, the facilitator may examine the primary system environment to determine possible causative factors and to provide guidance for change. Often, the facilitator must educate the primary caregivers about the nature of the problem and the possible avenues of treatment which exist. Recommendations may be made which are intended to alter the behaviors of the primary system members which have reinforced the speech disability of the child. The facilitator may, for example, recommend that more time be spent talking with the child, that negative reactions and punishments associated with the speech disability be discontinued, that competition for speaking time be minimized and that the parents involve themselves in a home therapy program.

Returning to the example of the development of stuttering, the facilitator may be able to reestablish normative fluency by encouraging the primary system members to ignore the child's dysfluencies, allow the child to speak without interruption or competition from other family members, and to avoid discussing the dysfluencies in the presence of the child. The parents may be encouraged to talk to siblings and peers so that they do not tease or make fun of the child's speech. By reducing those situations which increase anxiety and negative reactions toward speech, speaking situations may become less threatening to the child and allow him to speak in a more fluent manner.

Primary system intervention, then, is designed mainly to educate the primary system members about the disabling condition, alter negative environmental factors associated with the disability, which contribute to its advancement, and to provide suggestions and guidance for home intervention therapy.

The Adjunct System

Adjunct system mediation may resemble primary system mediation in terms of the techniques employed and goals desired. The major difference between the two systems involves the relationship of the individuals to the "at risk" child. Adjunct members include all people who come in contact with the child but who are not members of the immediate family. Relatives, neighbors, peers and educators make up the majority of these members. The nursery or primary school teacher is often the most influential member of this system since she may spend a great deal of time with the child. The facilitator may choose to examine the school environment in a similar manner to the way in which he examines the primary system environment. The adjunct member may be counseled as to ways of dealing with the presenting state of the child so as to minimize negative experiences in the adjunct environment. Therapeutic recommendations may be offered to the adjunct member which will support and continue the therapy program established in the clinic and home.

The Transitional State

The transitional state is a very important and yet often overlooked aspect of the total environment which may have a significant influence on the diagnostic, therapeutic, and carry-over stages of intervention.

It should be recognized that anxiety and resistance may be provoked by bringing a child into a clinical environment. The child may be aware that there is something wrong with the way that he speaks and that the clinic is the place where the problem will be corrected. Besides provoking a fear of the unknown, the very act of bringing the child to a clinic will emphasize the fact that he is different. Upon entering the clinical situation, the child is confronted by adult strangers who want him to perform tasks he has never done before. It is not unusual to see these children clinging tenaciously to mother, and resisting any demands made by the facilitator. This resistance and fear may frequently reduce the child's performance on diagnostic tests and lead the facilitator to believe that the child has poorer skill than he may actually possess. Naturally, the communication specialist is mainly interested in the verbal skills of the child. Without careful planning, the facilitator may be faced with a child unwilling to speak. The competent facilitator should therefore attempt to make the home-clinic transition a gradual non-threatening process. To do this, the facilitator may use some of the following facilitating procedures:

1. Visit the child in his home environment and become acquainted with the child prior to the intervention stage. This has the added advantage of allowing the facilitator to gain information about the primary system environment.

2. Encourage the caregivers to discuss the upcoming clinical visit with the child so that he knows what to expect.

3. Allow the child to become adjusted to the clinical environment prior to beginning the intervention.

4. Allow the parent to accompany the child to the examination/therapy room and be present during the first few sessions.

5. Encourage the parents to be part of the session by having them verbally interact with the child.

All too often, therapeutic procedures are undertaken solely within the clinical environment. The child may appear to be performing and developing in the desired direction and then seemingly forget all that he has learned upon leaving the clinical environment. While there may be many explanations for this commonly observed phenomenon, the controlled clinical situation does not always reflect the speech or speaking situations which the child encounters in the primary and adjunct environments. To minimize this effect, the therapeutic design may include "speech assignments" which require the child to use his newly acquired speech patterns in the presence of others outside of the clinical milieu. This transitional phase (from clinic to adjunct environment) may be designed so that the facilitator initially accompanies the child and later allows the child to perform the procedure on his own (a transitional stage within a transitional stage!)

The final transitional stage involves the termination of therapy. Often the child develops a strong attachment to the facilitator and finds the termination of this relationship emotionally difficult. If not handled properly, the child may revert to his former speaking patterns. To facilitate this transition, the therapist may wind down the therapy process several weeks in advance of the termination date. This process involves reinforcing the idea that the child has made the desired changes in his speech and that shortly, he will not need to make visits to the clinic. The facilitator should tell the child how many sessions are left and remind him at each meeting. Thus, the child knows in advance how many more times he will be coming to the clinic. When the final day arrives, the child should be prepared for the termination. In some cases, the facilitator may feel that a follow-up procedure may be necessary to assure the stabilization of the new speech pattern. This can be done by having the child periodically return to the clinic, by visiting the child's home, or by talking to the child over the telephone and by having the parents send in progress reports.

The Clinical Environment

Clinical services for speech and language and hearing impaired children are provided in a wide variety of contexts. Generally these contexts take one of the following forms: (1) community speech and hearing clinics, (2) non-university or university hospitals and health facilities, (3) college or university clinics, (4) private clinics, (5) public or private schools, (6) institutions for mentally, emotionally or hearing disabled and (7) speech and hearing summer camps (Curlee, 1975).

The nature of the clinical program may be narrowly defined or multifaceted depending upon the nature of the presenting state of the child. The exact therapeutic techniques will vary according to many variables. The goal of any procedure, however, is to develop those skills which have been identified as "at risk" to their maximum potential. Thus the goal of stuttering therapy is to institute fluent speech patterns; the goal of language therapy is to develop language consistent with the chronological age of the child and/or to teach linguistic rules and concepts so that the expression of language is more normative; the goal of articulation therapy is to correct misarticulations present in the child's speech in order to improve intelligibility; the goal of voice therapy is to change the pitch, alter the loudness or improve the quality of phonation; the goal of therapy for the hearing impaired may include improvement of articulation, voice and language, as well as to teach the child how to maximize those skills which allow him to compensate for the loss or impairment of the auditory system. A second goal of speech, language and hearing intervention may be to institute an alternative nonverbal communication system if speech does not appear to be a possibility. The use of manual communication for hearing impaired individuals and the use of form-boards and electronically mediated communication devices for the cerebral palsied and mentally retarded are examples of this therapeutic direction (Hagen et al., 1973).

The facilitating techniques utilized to achieve these goals generally reflect attempts to intervene at the developmental stage which most accurately corresponds to the child's successful attainment of speech and language. The five year old child who exhibits speech and language skills commonly seen in two year old children will typically enter a therapeutic program which initially teaches speech and language skills of this earlier age group. If there does not appear to be a developmental lag, therapeutic intervention usually attacks the immediate presenting problem. Since speech patterns are over-learned behaviors, intervention often requires breaking down the skill to be learned into small, workable steps, progressing from easily attained skills to the more difficult. In addition to working directly on the speech disability, a variety of prerequisite skills may also be taught: attention span lengthening, eye contact, auditory localization and discrimination, motor skill development, and imitation behaviors.

Therapeutic intervention for the hearing impaired incorporates many of the same intervention procedures commonly used with the speech and language disabled child. In addition, certain compensatory skills may be taught: hearing-aid orientation, speech and lip reading, auditory training, and manual communication (Ross, 1972).

A discussion of specific therapeutic techniques to institute these skills is beyond the scope of this project, however, the interested reader can find discussions of these techniques within the following sources:

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As a final summary to this section on intervention strategies, the advice of Buscaglia (1975) regarding goals of intervention, seems appropriate.

> The specific goals . . . are mainly: 1) to help the parents see that the special child is a child first and a child with a disability second, 2) to understand the issues and facts involved in the disabling condition so as to best be able to help the child in a constructive manner, 3) to assist the parents and child to understand their unique feelings which have been aroused by the advent of a disability, 4) to aid the parents and child to accept the disability emotionally, and intellectually without devaluating the individual possessing it, and 5) to help the child and parents in continuing to develop their unique potentials together, and independently, toward their own self-actualization (p. 277-278)

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TOWARD AN UNDERSTANDING OF PHYSICAL, HEALTH, AND MULTIPLE DISABILITIES

by

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OVERVIEW

The areas of physically and multiply disabled children encompass a wide span, and in many cases overlap. Physical handicaps generally include the following: the neurologically impaired (Epilepsy, spina bifida, and minimal brain dysfunction), the orthopedically impaired (congenital disabilities, poliomyelitis, hemophilia, arthritis, and muscular dystrophy), and other health impairments (Rheumatic fever, congenital heart defects, diabetes, nephrosis, cystic fibrosis, asthma, tuberculosis). Multiply disabled are those individuals with two or more of any of the disabling conditions discussed here and in previous sections of this paper. Wolf and Anderson (1969) state that a theoretical construct is lacking to deal with the education of the deaf-mentally retarded, deaf-blind, blind-speech impaired, and blind-mentally retarded child. Both authors see the area of "multiply-handicapped" to be poorly defined, due to confusion arising from numerous definitions, classifications, and terminology used in the field. Further, there is no consistent reporting on incidence and prevalence of conditions, and the education of multiply-handicapped children is hampered by a lack of teaching methodology and research in the area (Wolf and Anderson, 1969). It is clear, however, that the presenting state of an individual with multiple disabilities cannot be understood without considering the interacting effects of the disabilities. There is little value, for example, in treating a deaf-blind child as if the individual were just deaf and blind. The effects of these two conditions upon the child are not merely additive, but are multiplicative interactive aspects of the presenting state.

It is important to realize that in this area we are dealing with an extremely diverse and complex population. The deep recognition of this reality will allow us to more fully appreciate that any criteria, categorization system, mediation or environment developed will at best be appropriate for a small segment of the population. Each individual case is an issue to be negotiated between that individual and the particular setting in which the adaptive fit is to be achieved.

Research in the areas of physical and multiple disabilities is sparce. Program development for severely disabled young children can draw "from basic research in the areas of discrimination, generalization, linguistic development patterns, reasoning, retention, stimulus control, inhibition, operant strategies, etc.," (Altman, 1976, pp. 40-46). Though educators in the field recognize the need for basic research, their most urgent need is for curriculum development and effective strategies for implementation.

Education is only a part of the system of a young, multi-disabled child. Classification of handicaps seems a hopeless muddle when consideration is given to the fact that many physically impaired children are also multiply disabled. Because of the multiplicity of factors or aspects of the presenting state of the individual, the socio-ecological approach may be particularly effective in terms of analyzing the support needed by particular systems to encourage the development of adaptive fits in varied environments. The focus on the adaptive behavior of a child commences with the knowledge that each disability or combination of disabilities presents a unique situation for the child and his family. It is conceptually difficult to consider all features in a physically and/or multi-handicapped child's negotiation in his world. Therefore, we have chosen to focus on only a few disabilities in depth as exemplars of the applicability of the socio-ecological model. As examples of physical and health impairments, hemophilia and cerebral palsy have been selected. Following general descriptions of these conditions, they will each be explored in depth through a biographical account, which emphasizes the dynamic features of the primary systems.

Additionally, as a unique aspect of situated functioning, an examination of terminal conditions and related crises will be presented.

HEMOPHILIA

Presenting State of the Individual

Hemophilia is a hereditary sex linked recessive condition characterized by the absence in the blood of a plasma protein (AHF or anti-hemophiliac factor) which inhibits blood clotting. In classic hemophilia, which accounts for 80%

of the reported cases, blood clots never sufficiently form, and so the amount of blood lost through any external injury by any individual affected is much greater than that of a normal individual. In addition, internal bleeding is a hazard. Hemophilia is considered an orthopedic disease because joint bleeding, especially during growth, often affects the mobility of the arms and legs. Therefore, it is during the critical growth years between six and eighteen that special attention to joint bleeding is essential. Many hemophilia victims become crippled in childhood.

Treatment of the disease usually involves a blood transfusion of fresh-frozen plasma whenever there is internal joint bleeding and also in cases of external bleeding when there has been substantial loss of blood. As the child grows, transfusions are more frequent and more blood must be used to supply the larger body. When a child is born with hemophilia, it is known that this condition will persist throughout his lifetime. In the course of early childhood, accidents which cause hemophilic bleeding must be attended to immediately; and if bleeding is profuse, the child must be hospitalized for transfusions. Every lump and scrape of a curious toddler requires watchfulness, for it might become a serious episode. How the young child will adapt to the illness is not exclusively a medical problem. The primary system with which the hemophilic child must negotiate an adaptive fit and which provides support for survival and development, influences both the context and conduct of the child as well as the accompanying medical considerations. To elucidate the specific developmental issues of attachment, locomotion, active manipulation, and communication, in the context of the primary system, one family's experience with their son will be detailed (Massie and Massie, 1973).

Bobby was born with hemophilia, and he and his family have coped with the problems of this illness for eighteen years. The parents' moving account in the book Journey retraces their steps in living with the disease; and their retrospective experience exemplifies a family that has coped, has adapted, and has supported Bobby's development to the extent that he is not handicapped by his disease.

In the Massie family, the birth of their only son was viewed with joy:

> From the beginning, Bobby was a wonderful, happy baby who loved everybody. I thought him very handsome. He wanted to go everywhere, explore everything. He managed to roll off the bed long before Dr. Spock predicts such a possibility. I was so proud! He was strong. How was I to know that these were the last carefree months I was to enjoy. (p. 14)

A strong attachment bond seems to have been established very early. At the age of one year Bobby was first hospitalized for his condition. His mother's primary lament was over the separation from her child. "They would not let me stay with him at night. I lay in my bed sleepless, worrying about his fears and loneliness" (p. 45). With a strong, resilient tie to their child, the Massies accepted both their child's condition and their role in fostering Bobby's survival and development.

The unpredictable nature of Bobby's disease posed daily stress for his mother. As the toddler began to explore and actively manipulate his environment, his mother wondered: "Every stage of growth meant new decisions. How far should we let him go.... Could he sled? What about tricycles--bicycles?" (p. 113). Also, there were those endless days when Bobby was restricted to his bed because of serious bleeding. How is a child to develop environmental mastery, and remain curious about learning, when his world is the four walls of his childhood bedroom? His mother was very conscious of the possible effects of this restriction on her young child: "It was hardest when Bobby was very small. I scoured the stores for games. I kept him lavishly supplied with crayons and paper. I tried to read to him a lot, but I couldn't do this all day" (pp. 171-172). Despite her feeling of helplessness, Mrs. Massie, by her own son's retrospective account, did provide her child with coping mechanisms during the bedridden years of early childhood. The tiny plastic knights that Bobby set into battle over the sheet and up the pillow-hill were commanded by Sir Bobby: "Sir Bobby could do anything, and for me, at the time, that must have been very important" (p. 172). The toys in this child's life led him, through his imagination, to all kinds of worlds, and kept his spirit strong. Firmly grounded in the reality of his problem, he used the available resources to maintain his interests in the world.

During the periods that Bobby was not affected by his illness, he was a lively, curious, vibrant preschooler. "Perhaps because he was so active, he was constantly biting his tongue or scraping his lip. Even a tiny scrape took weeks to heal" (p. 56). Bobby had developed fine motor skills; he walked early, ran fast, could get around quickly and confidently. The risks of injury are high for every active preschooler; but Bobby's mother, despite her apprehension, did not keep her child indoors all day. With this chronic illness, there will be a certain apprehension and caution throughout life, but in developing, Bobby needed to walk, needed to explore, needed to move out to every broadening contexts.

On the surface, this would seem to be counter to his survival. There was always a real risk that a severe injury could occur in a place where there was not enough time for a life-saving transfusion. Undeniably, this is stressful for the family, and they could have easily become immobilized by fear. The Massie family valued their own family development beyond Bobby's "survival." They were conscious and cautious about Bobby's condition without crippling his development and personality.

Robert and Suzanne Massie's book is a subjective account of their thoughts and experiences written after their child, through sheer perseverance, had relearned to walk, successfully completed his schooling, and was a student at Princeton University. Bobby's adaptive capacity was fostered by his facility in communicating his wants and feelings to his concerned parents. Bobby, at eighteen, could say: "...if having vanquished braces, bleeding, pain, self-consciousness, boredom and depression, I have not added in any way to my appreciation of this life that has been given to me, that indeed would be a misfortune to be pitied" (p. 458-459).

Certainly each individual's presenting state and primary system would be unique in the manner of its negotiation of the type of issues faced by the Massie family. There would also seem to be commonalities of particular aspects of situations, the individual characteristics of the presenting state, and the interactional characteristics of the primary and adjunct systems.

CEREBRAL PALSY

Presenting State of the Individual

Cerebral palsy is a life-long motor disability which is caused by a neural dysfunction. Secondary characteristics of this disturbance may be sensory defects and convulsive disorders, as well as difficulties in communication and other psychological processes. In some cases, additional disabilities are present such as mental retardation, which are not inherent to cerebral palsy itself.

Although cerebral palsy usually presents itself very early, it may develop at any age. It can occur as a result of prenatal, perinatal, or postnatal conditions. Some prenatal conditions that may lead to cerebral palsy are: anoxia, severe anemia of the mother, serious heart condition, shock, threatened abortion, metabolic disturbances of the mother, and RH factor incompatibility. In the perinatal phase, injury during birth is a firmly established cause of cerebral palsy. This includes, anoxia, breech birth, holding back of the head, or hemorrhaging of the brain during birth. Postnatally, childhood diseases, head injuries, certain types of poisoning, and strangulation may lead to cerebral palsy.

According to Kirk (1972), there are various types of cerebral palsy. The most common kind is spasticity, which involves jerky, tense, uncontrolled movements. Athetosis is the second most common type, and consists of uncontrollable, jerky, irregular, twisting movements. Ataxia involves unsteady movements, including frequent falling. Tremor and rigidity are the least common types of cerebral palsy: tremor is involuntary vibrating movements of the entire body, while rigidity is diminished motion. In addition to these five types, it is possible for an individual to have any combination of them (Kirk, 1972).

Treatment of cerebral palsy differs widely, depending on type and severity. Physical therapy and remedial exercises are almost always needed, and speech therapy and special education are also often required.

Primary System

Cerebral palsy will be discussed in depth through the personal experience of one particular family of a child with spastic cerebral palsy. The story has been conveyed by Maria Killilea, the author of Karen (1952), and the mother of the affected child. It should be noted that this case is by no means being presented as a typical case, but rather as an example. Another important factor is that the occurences in the book took place a number of years ago. Although Karen was born in 1940, most of the experiences of the family seem reflective of contemporary adaptation systems.

Karen was born nearly three months premature and weighed only two pounds. She was very weak and her survival was in question. This period was very difficult for the parents, especially for the mother. While the other new mothers held and fed their babies, Mrs. Killilea could see Karen only through a glass window. When Mrs. Killilea went home, Karen remained at the hospital, presenting a difficult emotional experience for the whole family: "I went over to the couch and inched between Jimmy and Marie. Jimmy put his arm around me and Marie squeezed against my side. We three were together in a new closeness. A closeness brought about by hurt and longing for a member of our family that none of us had ever touched" (p. 4).

Not only was the situation emotionally upsetting, but Karen's hospitalization also required alterations in the family's daily routine. Less time was spent with Marie, then 2-1/2, because her parents visited the hospital as much as possible.

Because of Karen's frailty, her parents could not touch her for a few months. After that, her hospitalization continued until she was eight months old. In spite of the care given to Karen by the hospital staff, and frequent visits from her parents, the development of an attachment relationship within the primary system seems to have been "at risk" for at least this period.

When Karen was released from the hospital, *the family was elated*. There was no indication that she had cerebral palsy or any other disorder. It was nearly a month before the family noticed that Karen was not developing motorically:

> When she was about nine months old, we accepted her rotundity and began to watch for development as we had seen in Marie. I noticed first that Karen failed to perform the most bewitching of all baby activity--a little round hand holding an even rounder foot and easily putting the toe in the mouth. Then I noticed that she never kicked off her blankets; and then, that no matter what position I left her in, she was in the same position when I returned to her. She was making no attempt to play with the bright-colored objects I hung on the bars of the crib. She did not get up on her knees and wiggle her bottom like other babies.... It was hard not to make comparisons, so we put Marie's baby book away. But no parent can erase from his mind the budding of his child's mind and body. As the days passed there didn't seem to be any budding with Karen.... I don't know when fear crept in and became a permanent lodger. (p. 20-21)

This overwhelming fear affected the entire family system, including the marital relationship. According to Mrs. Killilea, because of Karen's lack of development, she became increasingly less anxious to greet her husband each evening when he came home. Karen's prolonged lack of demonstration of those developmental events that parents anticipate and expect prohibited the mutual sharing of the rewards of being a parent. Mr. Killilea's arrival home each evening marked the passing of another day that Karen did not *do* anything, and also reminded both parents of the lack of joyful events to share. Because of this, there was a tendency for Mrs. Killilea to withdraw from her husband, partially as an effort to deny the reality of the situation.

People close to the family also became fearful about Karen: "We were not the only ones distressed. After a while, fear went to live also with others:

my mother, Jimmy's mother and father, sisters, brothers, aunts, uncles, cousins, friends and neighbors" (p. 23).

It seems that this fear reaction was at least in part based on uncertainty--it was clear that something was wrong with Karen, but no one knew what it was. This was expressed by Mrs. Killilea to the doctor right before Karen was diagnosed: "'John,' I said, 'you must believe that we can adjust to any fact, but we cannot adjust to an unknown quantity. We cannot go on living with a shadow. We cannot fight a shadow'" (p. 24). Mrs. Killilea was essentially saying that the family could adapt to Karen's condition, whatever it might be, but that they could only do that if they knew what it was.

However, the initial impact of the diagnosis that Karen had cerebral palsy was very hard on Mr. and Mrs. Killilea. They were given a very poor prognosis: they were told that Karen would never sit up, use her hands, or walk. They were referred to a specialist, who confirmed the diagnosis, adding that he believed that cerebral palsied children had no intelligence. This further upset the family, and also was not believed by them. Karen's parents thought that she was intelligent, and sought to confirm this by bringing Karen to see a number of doctors. These visits, however, turned out to be disappointing, and sometimes devastating. One doctor suggested to "take out a good-size insurance policy so that she will always be provided for. Then take your child to an institution and leave her and forget you ever had her" (p. 34). In addition to these disappointments, the family was also faced with financial hardships due to trips all over the country to see various doctors, the doctor bills themselves, and worthless equipment that had been ordered by some of the doctors.

The Killilea's search ended at the twenty-fifth specialist that they brought Karen to see. Karen was by this time 3-1/2. Mrs. Killilea went alone, because her husband was hospitalized, after having a ruptured appendix. As she describes:

> *'Mrs. Killilea'--he began quietly and confidently. I was totally rigid and I could feel the perspiration running down my back. This was my first verdict alone. He went on: 'Karen is a fine healthy child. She needs help and a great deal of it. My verdict is--that she can be taught to sit up and use her hands. And Karen is going to walk. In addition, there is no question that she is mentally very alert. Normal IQ or higher.'*
>
> *In all the years of defeated dreams and vain searching I had not cried--but I cried now, and the tears were warm and sweet, because they were tears of happiness (p. 49).*

This final verdict encouraged the family to continue in their efforts to help Karen to develop as much as she was able. They had already been doing this, by encouraging her speech, locomotion, and active manipulation. In the area of speech, Karen was not disabled, and emphasis was put on this by the family:

> Because Karen was barred from most of the average activity of children and, therefore, could not excel in the usual childhood activities, we sought for a sphere in which she could excel.... While other children ran around and played ball and Karen sat and watched, she could be taught to think and speak of them as "youngsters cavorting and hurling an object into space." Stilted today, but tomorrow an excellence--an excellence in language. The family made a pact. To fulfill our pact I must confess we were put to considerable expense for a large dictionary. We would not use a one or two syllable word if a four or five syllable word would do" (pp. 82-83).

This quotation demonstrates the family's willingness to put forth a great deal of effort by exploring nontypical developmental trajectories and modes of adaptation in helping Karen to become competent. Because of this, Karen was able to develop advanced communication skills, which increased her self-confidence, and, of course, were advantageous in their own right.

It was in the areas of locomotion and active manipulation that Karen was disabled. Her family, however, encouraged her to do as much as she possibly could. This required a great deal of patience and self-control: Karen did things extremely slowly, and it would have been much easier (in the short run) for her family to do things for her. It was also critical to allow Karen to explore her environment, as she was able to: this led to a lot of dirty clothes and comments from those who did not know of Karen's condition. What made this situation tolerable for the family was the desire for Karen to become an "independent" individual. As Mrs. Killilea writes, "Thence springs an indestructible determination that, as soon as possible, regardless of cost, you will help your child to her rightful independence in bathing, dressing, eating, writing--all the talents of self-help. If, when Karen is mature, she lives with us, it will be because she wants to, not because she has to" (p. 135).

Karen needed more than encouragement to develop locomotion and active manipulation. She needed intensive physical therapy, which her parents learned (from the last doctor that they visited), and did with Karen for years. Through a great deal of hard work, Karen did learn to walk (with crutches), to write, *and also to perform many self-help skills on her own. When a breakthrough was made in one of these areas, the joy was overwhelming:*

> *I was half dressed when I happened to glance through my door into the living room. My heart stopped. Karen was not sitting on the ottoman. She had the crutches on and was walking toward me. One faltering step and another and another--I realized I was counting out loud. "Five, six, Dear Lord, she is apt to take a bad fall but if I go to her I'll make her think it isn't safe. I'll make her afraid. Seven, eight, nine, ten"--I wasn't breathing.... How far she might have gone I do not know, but my heart couldn't stand any more. I walked across to her slowly, stopped and moved forward again. Calm--calm--I reached her. She had stopped and was watching me closely, perhaps looking for uncertainty or fear. I smiled and stopped and took her and her blessed crutches into my arms. Then I went to pieces. I cried and cried and couldn't stop.... "Did you see me, did you see me?" Her voice rose and shook as the full realization of what she had done swept over her. "Mom Pom, I can walk, I can walk all by myself" (pp. 216-217).*

Of course, there were also some moments of severe pain and sadness for the family. An example of one of these experiences for Karen's older sister follows:

> *Each night after dinner, the family would assemble in the living room for fifteen minutes of music. Karen was placed in her parallel bars and we would dance. One night, Marie and I were acting out the "Parade of the Wooden Soldiers" and Karen was "dancing" too, swaying her body and stiffly jerking her legs. Suddenly Marie stopped and ran from the room. I waited for her to come back, and when she didn't I went looking for her. She was lying on my bed, sobbing as if her heart were broken.*
>
> *"Whatever is the matter--are you hurt?" I was dreadfully upset. In all her nine years, I'd never heard her cry like this. I bent over her, looking for I knew not what. She reached up and grabbed me and pulled me down beside her. Satisfied that the cause was not physical, I let her cry herself out. Her sobs were choking and deep, and it was some little while before they began to subside. She turned her tearstained face to mine and her words pierced my heart. "It hurts so to watch her." The tears flowed afresh. "If only I could give her my legs" (pp. 155-156).*

In addition to helping Karen to develop, her family also made it easier for her to enter into new situations. One example occurred when Karen began school. Mrs. Killilea went to the school the day before Karen's first day, and spoke to the children that would be her kindergarten classmates. She explained to them that Karen's legs and arms weren't as strong as theirs, and that there were things that she couldn't do. She told the children that they could help her sometimes, but not to spoil her. The next day, Mrs. Killilea brought Karen to school, and left immediately. Karen got along very well in school. The effectiveness of Mrs. Killilea's visit to Karen's classroom cannot be measured, but it seemed to have a positive effect on the children, the teacher, and Mrs. Killilea. It seemed to make the transition easier and smoother for everyone involved.

It is hoped that this biographical account has pointed out some of the common feelings and experiences of all families in similar situations: the overwhelming fear when the realization is made that something is wrong, the pain of initial impact of the diagnosis, the necessity of alterations in both life-style and expectations, and the difficult struggle between protecting a disabled child, and encouraging him or her to become a competent individual. Through this account, the adaptation of one primary system (in this case, the family) was described. The way in which this primary system adjusted played a crucial role in Karen's adaptation. If her family had not contributed an incredible amount of energy, patience, and financial and intellectual resources, she would not have developed in the way that she did. Each family presents a unique combination of characteristics, which result in their own way of adapting. Every aspect of the family's situation is significant in determining the development of each individual within the family system--including their psychological, physical, and financial states. The final outcome is determined by the unique interaction between these variables of each primary system, and between this system and the adjunct systems.

TERMINAL ILLNESS

Terminally ill children represent a wide variety of diseases and conditions, with the commonality being that they are all victims of presently incurable diseases. Terminal illnesses range from disorders in which the child may live to the early twenties, such as cystic fibrosis, to diseases such as cancer, where the child may die a few months after the diagnosis is made.

There are numerous factors that can play important roles in influencing the family's ability to adapt to having a terminally ill child (Kubler-Ross, 1969). Some of these factors are characteristics of the family system, such as the attachment relationships between the family members and between the members individually and the child. The strength of these interactional attachment relationships is closely related to the age and sex of the child, and the presence of siblings.

Another important factor in adjustment is the extension of the family, which is characterized by the degree to which the primary system has links to other systems. Also relevant are the plasticity and flexibility of the family system.

In conjunction with characteristics of the family system, there are certain variables about the nature of the illness itself that have differential effects. One of these that is critically important is the etiology of the disease. This is crucial because it determines in part whether the parents feel responsible for "causing" the disease. If one or both of them do feel responsible, this may lead to guilt, and vitiate the potential adaptibility of the family.

Other factors about the disease that may influence the family's ability to cope are: whether or not ongoing care is needed, the extent to which the illness interferes with the lifestyle of the child and/or the family, the age of onset, the child's life expectancy, and whether or not the disease is progressive.

One commonality that is found in almost all families with terminally ill children is a process called anticipatory mourning (Gourevitch, 1973). As the child approaches death, the family begins to separate from the child. This takes the form of a progressive emotional withdrawal from the child, understandable in that it seems to make the ultimate separation easier.

The effects of this premature emotional withdrawal are unfortunately not equally adaptive for the primary system, adjunct systems, and the child. It may be helpful to the family to go through an anticipatory mourning period. It also may be easier for the child's doctors and nurses to become emotionally distant from the child, or never to develop closeness. But for the child, these distancing mechanisms may be counter to his or her needs. The child may need to maintain or develop close realtionships shortly before death, in order to die in comfort and dignity. Anthony discusses this in his editorial comment concerning the section on dying in The Child in His Family: The Impact of Disease and Death (1973). He supports the contention that the child needs to maintain close contact with others during the process of dying, and that if the parents are unable to meet this need, then others must. Vernick (1973) has suggested that particular professionals should take this on as their responsibility. Alby and Alby (1973) *have suggested that the responsibility for this needed support be shared by a number of persons involved with the child, such as parents, doctors, and nurses, with one professional acting as the mediator of the process. It seems that the major problem is that very few people are willing or able to deal with the issue of death, especially when confronted with the imminent death of a child.*

Elizabeth Kubler-Ross is one of the foremost authorities in the area of death and dying. She emphasizes the need for dealing with terminally ill patients empathically and without extreme anxiety.

> *What all of our patients stressed was the sense of empathy which counted more than the immediate tragedy of the news. It was the reassurance that everything possible will be done, that they will not be "dropped", that there were treatments available, that there was a glimpse of hope--even in the most advanced cases. If the news can be conveyed in such a manner, the patient will continue to have confidence in the doctor, and he will have time to work through the different reactions which enable him to cope with the stressful life situation (Kubler-Ross, 1969, p. 37).*

Kubler-Ross (1969) delineates five stages which a terminally-ill patient goes through: denial and isolation, anger, bargaining, depression, and acceptance. She further states that the family of the patient also experiences very similar stages. It is at the stage of acceptance that families go through anticipatory mourning: as long as the family and the patient experience the stages synchronously, things work out smoothly. The problem discussed previously is encountered when the parents are in the stage of acceptance, and the child is not. No simple solution can be found: hopefully, other individuals can "be" with the child, regardless of the stage that he or she is experiencing. Kubler-Ross emphasizes the need for the professional to examine his or her own attitudes about death and dying, so that his or her anxiety or fear will not interfere with the ability to be empathic towards the patient.

In the cases of children under the age of five who are terminally ill, they may not be intellectually or emotionally mature enough to experience this sequence of stages. Depending on their capabilities, however, they may be much more aware, perceptive, and sensitive than people around them imagine.

After the child has died, the family system, of course, continues. How the family handles their grief can have profound implications for the continuing lives of every family member as well as the primary system as a unit. Kubler-Ross (1969) suggests that all individuals, including children, connected with a person *who has just died should be allowed to express their feelings openly. This will lead to a grieving period that is as short as possible, and that accomplishes the transition to a new and stable family system--a system that has adaptively reorganized after the loss of a member.*

Present difficulties in categorizing, developing adequate prognoses and suggested mediations for those with multiple compromised presenting states may be due to our traditional tendency to view individuals in isolation. Our preceeding case histories illustrate the point that an individual's adaptive functioning is an issue confronting not only the individual, but co-equally the individual's primary and adjunct systems.

Those cases in which "miraculous" adaptive success is achieved may be seen as cases in which family systems negotiated developmental issues through the exploration and support of alternative developmental pathways. Those cases in which pessimistic prognoses were borne out may be seen as cases in which systems were unable to display such flexibility.

Consideration of the concept of developmental trajectories and topographies may provide an explicit mechanism for the exploration and support of alternative pathways to the adaptive resolution of developmental issues for the multiplied compromised. The need is surely present, and the mechanism may be at hand.

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TOWARD AN UNDERSTANDING OF AFFECTIVE IMPAIRMENTS

Jon Bastian

OVERVIEW

Introduction

A "handicapped" group is a population with as many individual differences as a "non-handicapped" group. Therefore, an easy fit into a categorically isolated group is neither a necessary goal nor, in fact, a possible goal. "Affectively impaired" refers to a population of individuals with an enormous amount of diversity. Part of the problem in understanding this population is the difficulty of describing the complex affective state called "emotion". One can hypothesize that a child is "affectively impaired" either by comparing with normal emotional behavior for that developmental period, or by inferring from the behavior of the child what emotions lie behind the behavior. These methods are often inaccurate given that expressions of emotions are situational, highly variable and difficult to capture in our relatively limited vocabulary for emotion. Bower (1969) establishes that "affective impairments" are exhibited in transient, temporary, pervasive or intensive types of behavior. Thus, one must keep in mind that there is no uniform symptom pattern manifested in any child's presenting state. Instead, there are various types and degrees of behavioral responses presented by any given child. Therefore, categorizing a child's presenting state as "affectively impaired" is an arduous process due to the character and expression of emotional states, particularly during the early years of life, when the personality structure is still in the process of basic crystallization.

When attempting to understand the categorical terms within the area of "affective impairment" it is important to recognize that they are relative terms, depending upon the context in which the behavior occurs. Each individual case represents a constellation of unique patterns of strengths and weaknesses, and possibly adaptive and maladaptive fits. Classification and treatment programs must be undertaken with an eye to the particularities of the individual case.

Range and Diversity of Affective Impairments: A Behavioral Continuum

For some time the classification of psychiatric disorders of children has been in a state of considerable disarray. In addition, the difficulty is compounded by the development of numerous systems of classification, each using a different vocabulary to explain the phenomena called "affective impairment." However, there still exists a need to provide diagnostic categories, which will enable professionals in mental health and education "to make valuable predictions regarding possible cause, treatment course and outcome of behavioral abnormality (R. Sobel, p. 54)." In part, the confusion is increased by the fact that "affective impairment" represents a continuum of a range and diversity of behavioral responses; from adjustment reactions to childhood autism, within specific environmental contexts. In fact, the categories distinguished thus far do not explicitly describe the socio-ecological environment from which the impairments are conceived. There may be little agreement over what constitutes the child's presenting state. Consequently, the ambiguity will continue until there is developed a conceptual scheme around which all groups can essentially organize their beliefs. (The categories which have been distinguished for purposes of discussion may be found in the section referred to as the Presenting State).

Range and Variety of Therapeutic Approaches: Match with Behavioral Response

At present, there is no concensus among the professionals in mental health regarding the definition of mental illness, the developmental issues surrounding the affective impairment, or programs of mediation which are best suited to deal with the individual child and primary system's presenting state. We do know that such critical periods as pregnancy, childbirth, infancy, the toddler and preschool years and school entry represent optimal points of mediation for promoting mental health and for working with families to help them rear their children more successfully (Report of the Joint Commission on Mental Health of Children, 1970). This approach to working with families requires a commitment on part of the whole society which, at this point, is not evidenced (Gioscia et al, 1968).

When an affectively impaired child is in need of care, a wide variety of services need to be offered. These services should be based on a) the behavioral stability of the child, b) the strength and capacity of the family to support him, c) the resources of the community (Report of the Joint Commission on

Mental Health of Children, 1970, p. 278). The Committee believes that mental health programs should include: informational services, comprehensive developmental and psycho-educational assessments, treatment for the child and his family when indicated, special education programs, rehabilitation services, residential care facilities, transitional services such as partial hospital care, half-way houses etc., relief services for the families of children severely disturbed, and periodic assessment, evaluation and follow-up of the child (p. 278-279). At this point in time these comprehensive services are not readily available to the child or his family.

There exist numerous therapeutic approaches which are designed to deal with the mediation of an adaptive fit when a mismatch (dysynchrony) occurs between the individual and his/her system. These approaches summarized in a brief outline form are: childhood psychotherapy, behavioral therapy, filial therapy, psycho-educational therapeutic approaches, family therapy, individual therapy, mileu therapy, supportive psychotherapy, crisis-oriented psychotherapy, and chemotherapy. Given the discrepancies amongst professionals over categorization and the inherent problems in assessing a child's presenting state in the early years of life, assessment and the form of treatment recommended are not necessarily intrinsically related. When a particular therapeutic approach has been found to promote the child's adaptive development, it seems that it was successful either because a variety of approaches were tried until one or several combinations were found to promote the child's adaptive development and/or because of some personal quality in the therapist's relation with the child. Increasingly, there has been the recognition that the characteristics of the client and of the therapist and the nature of their interaction are critically important in determining whether the therapy method works. The characteristics of the therapist as well as the child and his total life situation are crucial elements in determining the type and nature of mediation.

When affective impairments are viewed in terms of the etiologies, five major categories are distinguishable with each group presenting different needs and forms of treatment: 1) faulty training and faulty life experiences, 2) surface conflicts between child and parents which arise from such adjustment tasks as relations among siblings, adjustments to school, social and sexual development, 3) deeper conflicts which become internalized within the self and create emotional conflicts within the child (neuroses), 4) difficulties associated with physical handicaps and disorders, and 5) difficulties associated with severe mental disorders, such as psychoses (Report of the Joint Commission on Mental Health of Children, 1970, p. 251). It is estimated that the first two categories represent 80 percent of the affective impairments, 10 percent in the third category, and 10 percent in the fourth and fifth categories combined. The last three categories require highly trained mental health workers, the other 80 percent of children can generally receive sufficient help from a variety of sensitive people such as parents, teachers, social workers, paraprofessionals, and others.

PRESENTING STATE

In 1970, the Joint Commission on Mental Health of Children developed a useful definition of an affectively impaired child. An affectively impaired child is one whose

> progressive personality development is interfered with or arrested by a variety of factors so that he shows impairment in the capacity expected of him for his age and endowment: 1) for reasonably accurate perception of the world around him; 2) for impulse control; 3) for satisfying and satisfactory relations with others; 4) for learning; or 5) any combination of these. In reviewing various treatment approaches, Gioscia and associates (1968) conclude that regardless of varying diagnostic and theoretical systems, the basic methods of treatment tend to be fairly similar in actual work with disturbed children and youth. The goals of such treatment are generally tied to the five criteria of mental health presented above. (p. 253)

Clark E. Moustakas (1959) has differentiated between children labeled "well adjusted" and children labeled "disturbed". Children labeled "well adjusted" express negative attitudes less often, with less intensity and with more focus and direction. Children labeled "disturbed" frequently and with vigor express negative attitudes toward their surroundings, and display less focus and direction in their expression. According to Moustakas "when feelings are expressed indirectly and diffusely, there is little release or satisfaction and the feelings continue to grow inside the person" (p. 24).

Moustakas sees the disturbed child as being impaired in the growth of self.

The child is seen as doubting his/her own power for self growth. "The growth of the self has been impaired because of his rejection in important personal relationships" (p. 3). The child's faith and self-reliance in himself has been compromised. The child can neither trust himself nor trust other people and is unable to utilize his own potentiality to grow with experience. These conditions may severely hamper the child's ability to adapt to the environment, especially if the child no longer trusts intrafamilial or extrafamilial relationships.

Bower (1969) lists five characteristics which have been useful to school teachers in distinguishing a child with an affective impariment. Such a child exhibits one or more of these characteristics in his/her presenting state to a marked extent over a period of time:

> *1) An inability to learn which cannot be explained by intellectual, sensory or health factors, 2) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers, 3) Inappropriate types of behavior or feelings under normal conditions, 4) A general pervasive mood of unhappiness or depression, 5) A tendency to develop physical symptoms, pains or fears associated with personal or school problems (p. 85).*

Any of these presenting characteristics can be found at times in all children. The important distinction is the degree and duration of severity of the presenting symptoms. If these characteristics become severe enough to hamper the child's adaptation to the school environment it can be seen as a sign of some type of "affective impairment" in need of mediation.

Affective impairments in children can be caused by numerous etiologic factors. Mahler et al., (1975) and A. Freud (1965) suggest that affective impairments are caused by disturbances or delays in the progressive personality development of the child. This developmental process is responsible for the attainment of the ability to achieve an adaptive fit within numerous environmental contexts. Consequently, an affective impairment can be viewed as a mismatched adaptive fit to specific environmental contexts.

Mahler et al., (1975) view either positive mental health and/or affective impairments as being determined by:

> the child's individual endowments, the quality of the early mother-child attachment relationships and interactions, and the crucial events in the child's growing up process--in other words, by positive and negative experiential factors, which impinge upon the exquisitely pliable makeup of the child's individuating psyche. (p. 201)

Numerous other classification systems are currently being used as criteria for determining affective impairments (Ackerman, 1953; Ackerman and Behrens, 1974; Beller, 1962; Brown and Pollock et al, 1937; Cameron, 1955; Chess, 1959; English and Pearson, 1937; A. Freud, 1965; Gerard, 1947; Henderson and Gillespie, 1932; Hunt and Gibby, 1957; Jensen, 1959; Kanner, 1935; Louttit, 1947; Murphy, 1968; Miller, 1936; Pacella, 1948; Prugh, 1963, 1973; Ross D., 1964; Selback, 1960; Settlage, 1964; Simmons, 1974).

Reginald S. Lourie and Rebecca E. Rieger (1974) state that currently the most significant diagnostic examination of the young child is done by the Group for the Advancement of Psychiatry (1966), (see also: Freud, 1965, Simmons, 1974). It was decided to give particular emphasis to the useful criteria developed, and to certain aspects of these other systems in order to provide a variety of useful approaches: Sobel; Neubaurer; and Thomas, Chess and Birch as well as the American Psychiatric Association are contributers.

It seems appropriate in view of our model, that particular emphasis be given to the classification system proposed by "The Group for the Advancement of Psychiatry" (1966), which gives support to the socioecological approach to adaptive behavior and functioning. If a successful adaptive fit is to be made by the individual with a so-called affective impairment, we must come to terms with the multiple-etiologic factors influencing the presenting state of the child under clinical observation. Furthermore, a topographical model of assessment of system interactions may provide direction to the promoting of emotional development of a child. A goal of "The Group" is that the classification system as offered will make possible the collection of data on a descriptive-dynamic level so that ultimately a clearer classification system may develop which involves and permits:

> ...a synthesis of the clinical picture, the psychodynamic and psychosocial factors, "genetic" considerations regarding the level of origin, the major etiological forces, a concise prognosis, and the appropriate method of treatment. From the information currently available, only the clinical-descriptive aspects can be dealt with. As of today, the other components must still be left for a diagnostic formulation. (p. 209)

The Group for the Advancement of Psychiatry (1966) has proposed a list of major categories and subcategories as well as a symptom list to be used by a clinician as diagnostic criteria for determining the nature of an affective impairment. Presented below is a brief description of the categories representing a behavioral continuum:

1) healthy responses: The criteria used for assessing healthy responses is still somewhat subjective and impressionistic. A positive assessment can at least be made in terms of part functions in relation to total functioning, allowing for the developmental level of the child. The criteria suggested by the committee for assessing healthy responses falls into these areas: a) intellectual functioning, b) social functioning, c) emotional functioning, d) personal and adaptive functioning, e) state-appropriateness, and f) psychosocial functioning. Developmental crises for these children are presumably of a brief and transient nature. The crises are related to the attempts made by the child to achieve such psychosocial tasks as the establishment of trust, autonomy, initiative, industry and identity. Transient situational crises for the children refer to normal adaptive responses and not disturbed behavior; for example, the mourning and grief response of the child over a death in the immediate family. The healthy normal adaptive responses made by the child may develop into a significant developmental deviation, reactive disorder, or other conditions through parental unawareness or overconcern.

2) reactive disorders: This category is used for those affective impairments where the behavior and/or symptoms displayed by the child are determined to be primarily a reaction to an event, a set of events or a situation. The affective impairment in the child is due to a conscious conflict existing between the child's drives and feelings and his social environment. When attempting to make this type of diagnosis, a careful account should be made of the child's environment. The evaluation should be based upon positive criteria and a specific situation must exist which is determined to be emotionally traumatic for that particular child. Reactive disorders can occur at any age, but are usually seen in infants and preschool children because of the lack of a fully crystalized personality structure.

3) developmental deviations: This category refers to those deviations in personality development which are determined to be beyond the range of normal *variation. These deviations in the child occur at a time, in a sequence, or to a degree not expected for that age level or stage of development. Biological (hereditary, constitutional, or maturational) factors are assumed to be the prominent causes of developmental deviations. The child's social or familial experience as well as unresolved reactive disorder may effect the course of a particular developmental deviation or the degree of impairment.*

4) __psychoneurotic disorders__: This category refers to affective impairments which involve unconscious conflicts over the handling of sexual and aggressive impulses. Due to the mechanisms of repression, neurotic conflicts remain active and unresolved, influencing the child's behavioral responses to the environment. Neurotic conflicts have their genesis in the preschool years, at a point in time when the child is involved in issues of personality individuation, early sex identification and social integration. In the preschool years the personality structure is still forming. This leads to changes and shifting of symptomatology at certain stages, making diagnosis a difficult task. Fully structured neurotic disorders do not usually occur until the early school-age period.

5) __personality disorders__: "These disorders are characterized by chronic or fixed pathological trends representing traits which have become ingrained in the personality structure. These trends or traits are not perceived by the child as a source of intrapsychic distress, and can be said to be ego-syntonic" (p. 237). Usually these disorders are seen in school-age children.

6) __psychosis__: Childhood psychosis is characterized by marked and pervasive deviations in behavior expected for the child's age. Psychotic disorders in childhood are assumed to be the result of a basic impairment in ego functioning. The emerging process of ego development shows extreme distortion, and is revealed in disturbances of such ego functions as thought process, affect, perception, motility, speech, reality testing, the establishment of object relationships and individuation. The characteristics of the psychotic disorder are:

> *...impairment of emotional relationships with persons associated with an aloofness and a tendency toward preoccupation with inanimate objects, loss of speech or failure in its development, disturbances in sensory perception; bizarre or stereotyped behavior and motility patterns; marked resistance to change in environment or routine; outbursts of intense and unpredictable panic; absence of a sense of personal identity; and blunted, uneven or fragmented intellectual development. In some cases, intellectual performance may be adequate or better, with the psychotic disorder confining itself to other areas of personality function. (p. 251)*

7) psychophysiologic disorders: This category refers to those disorders where there is a significant interaction between somatic and psychological components. Each of the above components are seen in varying degrees in the somatic picture.

> Biologic predisposing factors of genetic or inborn nature, developmental psychological determinants with a limited kind of specificity, and current precipitating events of individually stressful significance appear to be among the multiple etiologic contributions to these disorders.
>
> Although conflict situations of particular types may be consistently involved in the predisposition toward and precipitation of these disorders, no type-specific personality profile, parent-child relationship, or family pattern has as yet been associated with individual psychophysiologic disorders. (p. 259-260)

8) brain syndromes: These disorders are characterized by impairments of orientation, judgment, discrimination, learning, memory, and other cognitive functions, as well as frequent variations in affect. Basically these disorders are caused by diffuse impairments of brain tissue, particularly that of the cerebral cortex.

> These associated disorders are not necessarily related in severity to the degree of the brain tissue dysfunction or to the degree of brain damage. They are determined by predisposing personality patterns, current emotional conflicts, the level of development of the child, and the family interpersonal relationships, as well as by the nature of the precipitating brain disorder and its meaning to child and parents. (p. 263)

The Group for the Advancement of Psychiatry has organized a comprehensive categorization system. Other categories are also used to delineate certain characteristics of the presenting state.

Infancy: "Failure-to-Thrive"

A "failure-to-thrive" child can be defined as a child who does not grow and develop within the expected growth pattern (Denman, 1973). Such a child displays a critical at-risk condition. It manifests itself in the failure to grow and develop normally in physical, intellectual and emotional development (Report of Task Force I, 1968). Senn and Solnit (1968) point out that the "failure-to-thrive" child can appear from early infancy to the preschool period in any socioeconomic group.

If no physiological reasons exist behind the "failure-to-thrive" syndrome, then psychosocial reasons are suspected (Denman, 1973). According to Senn and Solnit, the mother of a "failure-to-thrive" child may have physical and mental health problems. They suggest that these mothers may have been deprived of good nurturing as a child due to a chaotic homelife. Denman (1973) believes the prognosis of such children is excellent if the parents can make the necessary changes in their management. This syndrome is appearing more frequently, with the origins of it not completely understood; however, it seems that at least some of these children are victims of neglectful and cruel parents (Report of Task Force I, 1968). The neglect may not be physical, but rather a failure of mutually beneficial exchange process.

Transient Situational Disturbances

According to Raymond Sobel (1975) the most common diagnosis of children seen in psychiatric clinics (Diagnostic and Statistical Manual of Mental Disorders II, 1968) is the category referred to as "transient situational disturbances". Disorders in this category are:

> 1) Adjustment reactions of infancy; Example: a grief reaction associated with separation from patient's mother, manifested by crying spells, loss of appetite and severe social withdrawal.
> 2) Adjustment reaction of childhood; Example: Jealousy associated with birth of patient's younger brother, and manifested by nocturnal enuresis, attention getting behavior and fear of being alone. (p. 49)

Adjustment reactions according to the DSM-II are transient disorders that occur in emotionally normal persons. These disorders are a result of some overwhelming environmental stress. As defined by the DSM-II, adjustment reactions seem characterized by very little more than a list of symptoms. Every adjustment reaction involves a disturbance between the child and his environment. The child's "maladaptive" reaction has multiple determinants such as:

> The child's age, physical health, genetic inheritance, temperament, stage of development, maturation, drives, modes of coping with anxiety (defenses) and previous experience with stress (R. Sobel, 1975, p. 2088).

Adjustment reactions have been explained by numerous models such as: Behavioral Theory Model, Family Interactional Model, Child Developmental Model, Feedback Model of Spitz, Developmental Lag Model, and Temperamental Quality Model (R. Sobel, 1975, p. 2089-2091).

Treatment of these disorders involves the identification of causal factors; it is toward the resolution of these factors that therapeutic approaches should be addressed (R. Sobel, 1975). Treatment approaches used are medication, behavior therapy, psychotherapy, multiple intervention approaches, family intervention (Bloch and LaPerriere, 1973), all of which in their way may be capable of correcting the disturbed parent-child interaction (R. Sobel, 1975).

Temperament and Behavior Disorders

Thomas, Chess and Birch (1968) present a schema for examining factors which contribute to the development of behavior disorders in young children. The focus of their research was on the child's temperament and the role it plays in the emergence and elaboration of behavior problems.

Temperament may be viewed as a general term referring to the "how" of behavior or the behavior style of the individual child (Thomas, Chess, and Birch, 1968). Nine temperamental characteristics have been established, with a three point scale for each category. These temperamental characteristics include: 1) activity level, 2) rhythmicity, 3) approach or withdrawal, 4) adaptability, 5) intensity of reaction, 6) threshold or responsiveness, 7) quality of mood, 8) distractibility, and 9) attention span and persistence.

Their theoretical framework assumes that . . .

> for a given temperamental pattern to contribute to the development of a behavioral disturbance, it requires particular kinds of interactions between the child with the temperamental pattern and his effective environment. (1968, p. 71)

Temperamental characteristics tend to cluster together in various patterns or constellations. Thomas et al., have identified six such constellations. The probability of developing a behavior disorder differs for children identified with one or the other constellation or temperamental type. For example, the type labeled "difficult child" is identified by his

> irregularity in biological functions, a predominance of negative (withdrawal) responses to new stimuli, slowness in adapting to changes in environment, a high frequency of expression of negative mood, and a predominance of intense reactions. (p. 75)

Approximately 70 percent of the temperamentally "difficult children" developed behavior problems. The explanation for this high incidence is to be found in the difficulty which parents of these children experienced in seeking to achieve a harmonious fit with their child,and thus properly supporting the child's adaptive functioning. This difficulty represents the "at risk" character of the child's state. The importance of this interactive notion of a child being "at risk" may be further appreciated in light of a statement the above authors made:

> Frequently...problems seem to reflect poor care. On the other hand, what looks like "bad" mothering often shows up, after careful investigation, to be the mother's confused reaction to a difficult child, rather than a primary cause of the child's problems. Any conscientious young mother who has been persuaded that she is uniquely responsible for her children's healthy development is bound to feel guilty and anxious when a child is difficult. When the problems persist, her feelings sometime explode in anger at the child. The mother then looks like the villain. Actually, the picture is a much more complex one. The problem is not the parent's, but the parent's and the child's, and results from a pattern of interaction between the two. (p. 82)

One must keep in mind that no single pattern of temperament definitely and ultimately results in a behavioral disturbance. Children who are "normal" or "deviant", developed this way as a result of an interaction between temperamental characteristics, significant features of intrafamilial and extrafamilial environments, and other aspects of the child's individual developmental context (Thomas, Chess and Birch, 1968).

Infantile Neurosis

These disorders occur (P. Neubauer, 1974) during the stage of oedipal development where

> (1) The super-ego, ego and id derivatives are involved in the conflict, (2) that the child is unable to arrive at a resolution of the conflict, and (3) that specific symptoms emerge as part of the compromise formation between the internal and external struggle. (p. 55)

Other types of psychoneurotic disorders which occur in children have been labeled: anxiety type; phobic type; conversion type; dissociative type; obsessive-compulsive type; depressive type; and other psychoneurotic disorders, which includes any disorder which does not fit into the specific categories as offered (Group for the Advancement of Psychiatry, 1966, p. 232-237).

Childhood Psychosis

The predominant characteristics of persons classified under the category of childhood psychosis vary extensively, as do the interpretations. Kanner (1943) wrote the first systematic description of autism. Bettleheim (1967, p. 386) presents a concise statement of Kanner's earlier work.

> The characteristic features consist of profound withdrawal from contact with people, an obsessive desire for the preservation of sameness, a skillful relation to objects, the retention of an intelligent and pensive physiognomy, and either mutism or the kind of language that does not seem intended to serve the purpose of interpersonal communication.
>
> This behavior differs from ordinary obsessive ritualism in one significant respect: the autistic child forces the people in his world to be even more obsessive than he is himself. While he may make occasional concessions, he does not grant this privilege to others. He is a stern and unrelenting judge and critic. When one watches such a child for any length of time, it becomes evident that, unless he is completely alone, most of his activities go into the job of serious, solemn, sacerdotal enforcement of the maintainence of sameness, of absolute identity. (p. 386)

Aug and Ables (1971) and Eisenberg (1968) believe childhood psychosis can be primarily characterized by an early dysfunction in social, intellectual and interpersonal functioning.

Despite individual differences in time of onset, family characteristics, impairments in functioning, various labeling, and degree of disturbance, certain core characteristics are believed to exist in childhood psychosis (Baltaxe and Simmons, 1975). These core characteristics (Simmons and Tymchuk, 1973) can be grouped into six broad categories. In general, researchers seem to agree on these broad categories (Ornitz and Ritvo, 1968, Creak, 1964; Rimland, 1964; Kanner, 1943, 1946; Rutter, 1968, 1972; Rutter, Bartak and Newman, 1971). The general broad characteristics as outlined by Baltaxe and Simmons are:

> 1) Impairment of interpersonal relationships characterized by aloofness, decreased physical contact, and lack of eye contact, 2) Deficits in social behavior seen in severe limitations in cooperative play, toy play, and self care skills, 3) Stereotyped activities including self-stimulating behavior, various kinds of repetitious behavior and preoccupation with sameness, 4) Impairment of intellect manifested by concreteness of thought, school performance deficits and difficulties with judgment and abstract thinking, 5) Disturbance of speech and

> language seen in various forms such as mutism, echolalic speech, delayed development, and a variety of other idiosyncracies in word usage, speech modulation and content, 6) Onset prior to the age of 30 months. (p. 439)

Writers in the areas of childhood psychosis have presented the multiple dysfunctions in light of particular etiological theories. These theories attempt to explain the numerous characteristics or syndromes of childhood psychosis. Currently there is a wide range of perspectives under study. A review of these theories and perspectives can be found in: Rutter (1968); Rutter and Lawrence (1971); Rimland (1964); Kanner (1973); DeMyer et al (1972); DeMyer, Pontius, et al (1972), Mahler, Furer, and Settlage (1959); DesLauriers, A., and Carlson, C., (1969), and Arieti, S. (1975).

Since we are dealing with a population of individuals who all differ one from the other, it is important to understand the commonalities and differences between this potentially handicapping condition and other handicapping conditions. Wing (1969) points out that many children with central or peripheral perceptual disorders, receptive aphasia, or congenital blindness due to retrolental fibroplasia, exhibit the essential symptoms of autism discussed by Kanner (1943). Wing's comparative analysis enables the reader to become familiar with the commonalities and degree of differences existing between various handicapping conditions. In addition, one may then come to recognize that even for this segment of the population it is an issue confronting the individual and the context which seeks to accommodate the individual to determine, through an active process of negotiation, if an adaptive fit can be achieved.

Ego Deviation

In addition to developmental deviations,"some writers have outlined a disorder that involves the unevenness in areas of psychic function (Neubauer, 1974, p. 57)." Neubauer states that in certain children it is possible to observe very low or high thresholds in relation to sensory modalities. Their reactions to environmental stimuli such as sound, light, touch and degree of stimulation necessary for them to interact with the environment are considered to be outside of the norm. The diagnosis of these disorders must be determined by the degree of intensity of the pathology. The disorders have been explained by reference to their activity pattern: "hyperactivity", pleasure-displeasure responses, early smile, stranger reactions, or "placid children" (Neubauer, 1974). Such disorders affect the degree of interrelationship with mother, and in extreme cases the individual variations may result in what Mahler et al.(1975) describe as the "symbiotic child".

The Atypical Child

This disorder can be observed in infancy, as an impairment of some specific ego function (Neubauer, 1974). A variety of symptoms are manifested by the child in areas "of the development of thinking, language development, motility controls, reality testing, social judgment, and defensive psychic organization" (p. 58). This disorder is similar to the forms of psychosis in childhood, but the absence of a psychotic process and its early beginning permit these categories to be differentiated (Neubauer, 1974). Neubauer believes that these disorders involve the impairment of the synthesizing function of the ego.

Summary

Rutter (1965) states that there are several reasons why the classification nomenclature used by child psychiatrists lacks agreement. Many psychiatrists feel it is unnecessary and not important to distinguish between different conditions (Szurek, 1956) and/or that classification systems obscure individual differences preventing an indepth understanding of disorders. Rutter believes it is important to view each person as a unique individual with his own particular attributes and life history; it is also necessary to consider commonalities of characteristics a person shares with others. To view every person only as an individual separate from any environment would make classification an impossible task, and hence limit certain kinds of necessary structures.

A diagnostic classification should convey important and relevant information about the individual; but no one can expect any classification to say all that is relevant or important (Rutter, 1965). "Classification is not the same as a diagnostic formulation" (p. 162). Rutter views an adequate formulation as including statements about the type of disorder, the manner of its development, its etiology, prognosis, and likely response to treatment (p. 162). This approach is analogous to what we have suggested with our concept of the topographic map. Clearly, no classification system encompasses all this information (Rutter, 1965). The general aim of classification is to structure and order the material so that it can be communicated to others. Rutter lists three principles which might be used for understanding and surveying the literature on classification: 1) if the classification is to be acceptable it must be based on facts, and concepts that can be defined in operational terms 2) if it is to be useful it must convey information relevant to the clinical situation, and it must have predictive value 3) the aim is to classify disorders, not to classify children. Just as children may have measles one year and scarlet fever the next, equally it is possible that children may have one kind of psychiatric disorder at five years and another at twelve years.

Current child psychiatry classification nomenclature is marked by some confusion and apparent limitations (Fish, 1969, Jenkins, 1969). Although all of the criteria currently in use have not been presented, it does seem reasonably clear that the criteria used for the categorization of children as "affectively impaired" are relatively ambiguous and somewhat subjective. The criteria currently being used fall short of the system interaction model of assessment or the scheme of classification proposed by the Group for the Advancement of Psychiatry. There seems to be considerable overlap with other categories of handicapping conditions. It seems to be clear that most, if not all, of the previously mentioned criteria are situationally related, with the situation implicit and not explicit. This suggests that the criteria and categorization scheme in the area of emotional disturbances should include explicit aspects of the socio-ecological environment as well as the presenting characteristics of the child if a classification system is to evolve which is clinically relevant.

PRIMARY SYSTEM

The eventual adaptive development of the child, to a large extent depends upon his/her familial environment. The parents remain the primary agents involved in the socialization of their child (Bronfenbrenner, 1958, 1972; Stayton et al, 1971; Stone, Smith and Murphy, 1976; Bridges, 1931 and [illegible]umrind, 1967). The effects of the intrafamilial relationships are intense,and the members of the primary system and their roles must be considered if the nature and variety of pressures and influences on the developing child are to be understood. Early experiences exert long-term effects on personality development. The ability of the parents to respond to the unique "presenting state" of their child is critical

(Thomas, et al, 1968). Furthermore, the variables within the family (for example, size and composition, socioeconomic status, ethnicity and allocation of roles) significantly effect psychological growth. Ferguson (1970) and Blood (1958) feel that direct observation of the ongoing interactions within the family is the most satisfactory way to obtain reliable information. Jackson (1965) and Gewirtz (1969) maintain that there are many determinants of individual behavior and that the total family picture is affected by all participants in the system. Any attempt to understand individual behavior must use as a base the primary system in which the developing person is involved.

Although the newborn human possesses many potentialities, the infant is critically dependent upon adult caretakers for survival and development. Mahler et al (1975) believe that from the symbiotic phase of the mother-infant dual unity, where the infant is totally dependent upon the mother,

> ...those experiential precursors of individual beginnings are derived, which, together with inborn constitutional factors, determine every human individual's unique somatic and psychological make-up. (p. 197)

Ainsworth (1961) and Bowlby (1961, 1969) view dependent behavior of attachment as one aspect of development that continues into adult life. Bowlby (1958) maintains that certain innate responses in the infant's repertoire are responsible for establishing the initial attachment relationship. In the course of development these innate responses or behavioral systems become integrated and focused on the caregiver (Ainsworth, M., 1969). Bowlby (1969) states that infants reared under conditions where insufficient amounts of caregiving have been provided may show anomalies of development and will lack the basic foundation of healthy social development usually provided by the mother-infant attachment relationship. It can be hypothesized that the infant-mother attachment relationship is the necessary foundation from which adaptive behaviors unfold and develop into behavioral systems. Murphy (1968) lists twelve basic adaptational capacities which require support from the environment.

Independent or detached behaviors develop only after patterns of dependent or attachment behaviors have been established in the primary system. Certain behaviors that are usually considered dependent include seeking physical contact, attention, help, closeness, and resisting separation (Maccoby and Masters, 1970). Maccoby and Masters concluded that there were no consistent findings to suggest which child-rearing practices were responsible for the development of dependent and/or independent behaviors. Some investigators (Sears, Maccoby, and Levin, 1957; Finney, 1961; Baumrind and Black, 1967) have found that dependency is unrelated to parental warmth and other investigators have found that dependency in adolescents seems to be related to parental hostility and rejection (Smith, 1958; McCord and McCord and Verden, 1962; Winder and Rau, 1962). Sears et al (1953, 1957) suggest that children who are rejected may persist in behaviors associated with nurturance in infancy in an attempt to regain this form of dependency relationship. Maccoby and Masters (1970) have cited research indicating that social deprivation elicits dependent behavior not appropriate for the child's age. Early research concerning institutionalized infants indicates that in extreme cases social deprivation in the form of lack of mothering, resulted in retarded physical, social and emotional growth (Goldfarb, 1945a, 1945b; Spitz, 1945, 1946; Bowlby, 1952; Zigler and Williams, 1963; Braginsky and Braginsky, 1971).

To date, research has not definitely ascertained the nature and type of developmental changes in the attachment relationship or the points of vulnerability which constitute "at-risk" conditions for the development of an "affective impairment". The identification of these points of vulnerability in the child's attachment relationship will help to clarify some of the developmental issues behind "affective impairments".

According to the psychodynamic, the behavioral, and the humanistic approaches, the basic task of the child is to cope with life situations: internal, external and interactional. Therefore, each child develops methods and strategies of negotiating within or between systems from experiences in the family. Murphy (1962) describes three primary coping strategies of the young child: (1) returning to those aspects of the environment that are known to be manageable, (2) practicing responses to new situations in fantasy, trying on various responses and (3) regressing to a more immature response that the child hopes can bring momentary comfort or relief. Coping styles developed and evidenced by the child reveal a great deal about the degree of success experienced with environments encountered in the past. When attempts at coping or adapting are successful, the child usually develops a functional and reasonably well-adjusted personality. Some children develop a curious blend of "adaptive" and "maladaptive" coping responses to various systems.

Certain types of mother-child relationships have been found to affect the development of later cognitive abilities in children (Bayley, 1949; Pines, M., 1975; Bing, 1963; Brody, 1965). Brody (1965) found that children of mothers judged "high authoritarian" displayed less information seeking behavior than did children of mothers judged "nonauthoritarian". Mothers who were high on "hostility rejection" dimensions had less compliant, less attentive and less verbally interactive children. These children played more independently and sought more attention and approval.

The child with an affective impairment has been seen as suffering from a disturbed growth of self (Moustakas, 1959). According to Sullivan (1953), the origins of the self can be found in the interpersonal relationships the child has with significant others. Sullivan views the self as made up of "reflected appraisals". The earliest self-appraisals are in terms of what other individuals, particularly family members, think and feel about the child. Therefore, it is extremely important to understand the numerous types of interpersonal relationships "affectively impaired" children have with other family members (Hetherington and Martin, 1972; Ackerman, 1958, 1968; Adams, P., 1973; Anthony and Koupernick, 1970; Despert, 1970; Redl, F. and Wineman, D., 1951; Mahler et al 1975).

Recent studies suggest that the mother's relationship with the infant stabilizes in the early weeks of life (Bell and Ainsworth, 1972; Broussard and Hartner, 1971). Current research (and some theoretical perspectives) have pointed out that the child influences the behavior of the caregiver as well as the reverse (Sullivan, 1953; Thomas et al., 1963; Bell, 1968, 1971-1972; Bowlby, 1958; Mahler et al., 1975). However, some studies of maternal and infant behavior (Brody and Axelrad, 1970; Bell and Ainsworth, 1972) suggest that early maternal behavior effects the mother's later behavior. The father-child dyad is just beginning to be researched. Some studies suggest that the father's behavior may equally influence the child's development (Andry, 1960; Biller, 1971; Rutter, 1971; Nye, 1957). Also, a number of studies on family influences on child development reveal that the relationship between the parents may influence the child's adjustment (Nye, 1957; Rutter, 1971).

The personalities and behaviors of the parents are of primary importance, but the relationship between the child and siblings may also play an important role in the shaping of personality. Kock (1956) conducted a study on the effects of sex, ordinal position and spacing of siblings on the psychological growth of the child. In general, Kock found that children with brothers displayed more masculine traits than children with sisters. First-borns tend to be more responsible, show more intellectual curiosity, and are less aggressive than younger siblings. From the results of Kock's study it appears that an age difference between siblings of two to four years is the most threatening to the older child.

If all the aspects of the intrafamilial interaction are included in the analysis of an individual's behavioral development, the information obtained will provide a well rounded basis for understanding the "at-risk" conditions of family environments and the etiology of "affective impairments". The primary system, the system in which the child spends the most time and develops the most definitive linkages, must be examined very closely.

DEVELOPMENTAL ISSUES

Increasingly, the study of children has turned to the process of early ego formation and to developmental aspects of the attachment relationship. Two major contributors to the above areas are Erikson (1963), who describes epigenetic sequence of phase development and ego modalities, and Mahler, Pine, and Bergman (1975), who describe the process of self-object differentiation through the vicissitudes of separation-individuation (Neubauer, P., 1974, p. 52). Precocious, delayed, or uneven development of psychic organization may play key roles as precipitating factors in poorly negotiated developmental issues which can cause "affective impairments". In other words, the developmental point of view observes the process of unfolding and the interrelationship between maturation and the environment when attempting to explain "affective impairments".

Numerous studies have been done on the processes of the earliest evolution of psychic life, ego formation and aspects of the attachment relationship. The studies done by Kris (1950); Escalona (1968); Escalona et al (1959); Hartmann (1946, 1954); Weil (1953, 1970); Murphy (1964, 1968, 1976); Stone, Smith, Murphy (1973); Mahler et al (1975); Ainsworth (1969); Heide (1966); Wolf (1966);

and Bowlby (1958, 1969) are crucial studies concerning early infant ego organization, and aspects of the developmental process surrounding the attachment relationship. These studies have created a different perspective on the role of the attachment relationship in causing "affective impairments", making possible to some degree the assessment of the child's strengths and vulnerabilities in relation to the child's interactions with his/her specific environment. Assessment of these strengths and vulnerabilities has helped professionals "to more fully understand the development and relationship of symptoms and character disorders within the context of individual variation" (Neubauer, 1974, p. 53).

Attachment Relationship: Supported Navigation-Transition

M. Mahler et al (1975) analyze the mother-child attachment relationship with particular attention to phase-specific points of vulnerability of the separation-individuation process. Through the attachment relationship, the separation-individuation process establishes the "psychological birth" of the infant. Separation and individuation are conceived as two complementary developments, the former evolving from the child's emergence from a symbiotic fusion with mother (Mahler, 1952), and the latter consisting of achievements marking the child as having individual distinct characteristics. This process continues throughout the life cycle of a person.

Two phases appear as forerunners of the separation-individuation process (Mahler et al, 1975; Mahler, 1967; and Mahler and Furer, 1963). These two phases are the (1) normal autistic phase: the state of primary narcissism, where the infant completely lacks awareness of the mothering agent and (2) normal symbiotic phase: which is marked by the infant's increasing perceptual and affective investment in stimuli coming from the outside environment. The principal psychological achievement of this second phase is the infant's cathexis with the mother (Spitz, 1955). At this point in development the infant hasn't established a clear differentiation between inner and outer stimuli (Jacobson, 1964) and the child perceives the mother "as one dual unity with the not yet clearly demarcated, bordered-off, and experienced self" (Mahler, et al, 1975, p. 48). Sander (1962a, 1962b) believes that in order for the most primitive differentiation to take place, a "state" of psychophysiological equilibrium must be attained by the child. A state of equilibrium occurs (Winnicott, 1958) when there is a matching of discharge patterns, interactional patterns, and when the child is receptive to the holding behaviors of the mothering agent. Mahler et al (1975) suggest that the "holding behaviors" of mother are the symbiotic organizers of psychological birth. Different maternal behavioral "holding patterns" were found to affect the child's later degree of adaptive development during the four subphases of the separation-individuation process.

The first subphase is referred to as Differentiation and the Development of the Body Image, occurring around four to five months of age at the peak of symbiosis. All normal infants during this subphase "take their first tentative steps toward breaking away, in a bodily sense, from their hitherto completely passive lap/babyhood--the stage of dual unity with the mother" (Mahler et al., 1975, p. 55). Certain behavioral reactions made by the infant indicate that the beginning of this first subphase is underway. The smile of the young child becomes more specific, indicating that the crucial attachment bond has been established (Bowlby, 1958). The child begins to display behaviors of alertness, persistence and goal directedness, indicating that the perceptual conscious system is gradually developing. Around six months of age, tentative experimentation in separation-individuation occurs, and is observable in such behaviors as the infant pulling at mother's hair, eyes, or nose, putting food into mother's mouth, etc. The visual pattern of checking back to mother which occurs around seven to eight months of age was found to be the most regular sign of beginning somatopsychic differentiation (Mahler et al., 1975). When the symbiotic phase was delayed or disturbed by "poor mothering", this resulted in a delayed or premature process of differentiation.

The second phase is referred to as "practicing" and is characterized by two parts: "(1) the early practicing phase, ushered in by the infant's earliest ability to move away physically from mother, ... and (2) the practicing period proper, phenomenologically characterized by free upright locomotion" (Mahler et al., 1975, p. 65).

At least three developments contribute to the child's growing awareness of separateness and to the achievements of individuation. These developments are: rapid body differentiation from mother, development of the attachment relationship and the growth and functioning of the autonomous ego apparatuses in close proximity to the mother. The infant thus becomes more involved in the exploration of the environment and more active in determining the closeness and distance to mother. This phase brought on different types of developmental disturbances for the children in Mahler's study. They found certain types of mother-child interactions which could be used as criteria for determining "at-risk" conditions in the infant's state and in the environment. Emotionally some children found it difficult to "grow-up" and were unable to enjoy the beginning ability to distance themselves from mother, demanding closer physical contact. These children can be seen as "at-risk", because early explorations serve the purpose of "(1) establishing familiarity with a wider segment of the world and (2) perceiving, recognizing, and enjoying mother from a greater distance" (p. 67). Clearly, the development of these two functions increases the child's adaptive potential for entry into numerous systems, eventually without mother's physical presence.

During the "Practicing Subphase Proper" the young child takes his greatest strides towards individuation: the formation of identity. The child is concentrating on developing his/her own skills and autonomous capacities (Mahler et al., 1975; Erikson, 1963). Most importantly the child begins to walk, which dramatically effects the emotional development of the child (Mahler et al., 1975). For both sexes, the greatest strides toward asserting individuality took place within one month after free upright locomotion was attained.

Mahler and others characterize the child's state during the practicing subphase proper as "low-keyed". The child appears to be in a relative state of elation, impervious to knocks and falls. Children who had a symbiotic relationship which was unnecessarily prolonged or disturbed, with a mother whose presenting state during the symbiotic relationship was characterized as unpredictable, engulfing and rejecting, lacked the longing for the state of well being and unity or closeness with mother (Mahler, et al., 1975).

The third subphase is called "rapprochement" and closely follows Piaget's (1936) beginning of representational intelligence, ending with the child developing speech and symbolic play (Mahler et al., 1975). Around two and one half years of age, there is a change which occurs in the child caused by the growing awareness of separateness. The child at this point begins to actively seek out mother's closeness again, wanting to share with her every one of the newly acquired skills and experiences. It is during this period that the "fear of losing the love of the object (instead of fear of object loss) becomes increasingly evident" (p. 78). Emotional involvement of the mother, rather than rejection, seems to facilitate the child's autonomous ego development, imitation and identification processes, and the unfolding of the toddler's thought processes, reality testing, and coping behaviors (p. 79).

From the data accumulated, three periods have been identified as making up the rapprochement. During the third period, the child begins to find the optimal distance from mother. The processes of growing individuation which seem to allow the infant to function at a greater distance from mother are:

> (1) development of language (ability to name objects which may give) the toddler a greater sense of ability to control his environment, (2) the internalization process, . . . (3) progress in the ability to express wishes and fantasies through symbolic play, as well as the use of play for mastery. (p. 101)

Mothers who are not emotionally available at the time of rapprochement set into action a desperate attempt by the toddler to gain what is lacking in the attachment relationship. Attempts made by the child to gain the emotional quantity and quality needed from the mother drain the child's developmental energy so that many ascending functions of the ego are not developed. Hence, the adaptive ability of the child is hindered. Certain general danger signals of the rapprochement period have been identified as:

> greater than average separation anxiety; more than average shadowing of the mother (by the child) or continual impulse driven "darting away" from the mother, with the aim of provoking her to give chase; and finally excessive sleep disturbances. (p. 89)

The fourth subphase is referred to as: Consolidation of Individuality and the Beginnings of Emotional Object Constancy, with the main achievements of this phase being: "(1) the achievement of a definite, in certain aspects life-long, individuality, and (2) the attainment of a certain degree of object constancy" (p. 109).

Hartmann (1952) states that the establishment of affective object constancy occurs when a gradual internalization of a constant inner image of mother is positively cathected (Mahler et al., 1975). This development allows the child to function in settings separate from mother. The degree of separate functioning is based upon the cognitive achievement of object permanence and all other aspects of the child's individual personality development (McDevitt, 1972).

Mahler and others believe that the essential requirements for the development of emotional object constancy are:

> (1) trust and confidence (developed through the mothering one regularly satisfying the child's needs) as early as the symbiotic phase and (2) cognitive acquisition of the symbolic inner representation of the permanent object. . . the mother. (p. 110)

Given the development of object constancy, children during this subphase can gradually accept separations from the mother for longer periods of time.

The achievement of individuality is fostered by the child's increasing ability to express himself verbally, slowly replacing other modes of communication. It now becomes possible to trace some of the developmental conflicts over the separation process from the mother. Play at this time becomes more purposeful and constructive. Play also becomes an increasingly important mode for the development of fantasy, role playing and the resolution of developmental conflicts between the mother and child (Mahler et al., 1975; Erikson, 1963; Peller, 1954; Walder, 1933; Parten and Newhall, 1943; Murphy, 1972). In general, the fourth phase can be characterized by the unfolding of complex cognitive functions: verbal communication, fantasy, and reality testing. According to Escalona (1968), individuation is developing so greatly that even a cursory description of it exceeds the scope of most books.

If the separation process has been at all abrupt, unreliable or intrusive, the ability of the ego to function effectively will be compromised (Heimann, 1965). The adaptive ability of the child to navigate between or within systems will also be affected.

Summary

In considering all of the developmental issues necessary to resolve, it seems most necessary to consider the attachment relationship when discussing children "at-risk" for developing affective impairments. The second function, supported navigation-transition, seems especially critical to the children thus far discussed. There seem to be phases, subphases and critical periods in a child's development which warrant a closer look in light of the particular attachment relationships that might (or might not) have been developed and mutually maintained.

TOPOGRAPHY

Assessment of children who may be perceived as having affective impairments is at best difficult. The impact of a diagnosis of "emotional disturbance" is apt to have widespread socioecological effects on the child, the family, the peer group, the school, the subculture, and so on. We must proceed very carefully in an area of such potential ramifications when assessing a child with an "affective impairment."

Disturbances of the 1st Year of Life: Another Viewpoint

Spitz (1971) discusses the significance of the adaptive viewpoint in relation to so-called psychiatric disturbances, which might appear during the first year of life. If the adaptive processes in a child are uninterrupted, the child's development will proceed through a sequential structure of discrete elements into a coherent psychic system. Eventually, the sequential organization culminates in the inception of ego formation and ego constancy toward the end of the first year of life. Once the ego is established, it increasingly takes over as the central adaptive organ of the "system person".

When behavioral disorders which we equate with psychiatric problems appear during infancy they are not psychiatric problems at all (Spitz, 1971). At best, they are only impairments in the innate potentiality to develop a psychic system. Spitz believes one cannot postulate psychiatric impairment in an organism whose psyche is not as yet established. Therefore,all so-called psychogenic disturbances of the first year of life can be seen

> as failures in the process of adaptation, as disturbances of the adaptive process, of its sequential organization and of its functioning. Therefore, it will be useful to think of the adaptive disorders of the first year of life as nosologic entities, sui generis, defined as developmentally determined age-specific entities. (p. 240)

Spitz (1971) proposes that behavioral disturbances and affective disorders in the first year of life are not to be considered as a disease, but are to be considered as symptoms or as indicators of an underlying disease. Treatment should be directed toward etiology:

> In a large majority of cases, the deviant manifestations will have a counterpart in the environment, an environmental correlate that provokes the maladaptation, although not necessarily the form, which the behavioral manifestation takes. (p. 240)

When assessing the infant's susceptibility to becoming "affectively impaired" it is necessary to determine the intactness of the organism's system and the types of input influences the environment may have on the development of behavior disorders. Brazelton (1973) stresses that it is important to determine an "at-risk" infant as early as possible so that sophisticated preventive and therapeutic approaches can be administered. To do this systematically and rationally, a behavioral evaluation scale was devised by the author. The assessment instrument is used to evaluate neurological and developmental adequacy by 20 reflexive measures and by 26 behavioral responses to environmental and social stimuli; included are interpersonal stimuli frequently used by mothers in handling their child. According to the author, this behavioral exam measures the intactness of the central nervous system (CNS), and the neonate's ability to integrate CNS and other physiological recovery mechanisms. The observations of the infant-mother interaction will help to determine whether the environment can be perceived as helping or hindering the development of an infant considered to be "at-risk". Very early assessment of infants may help to determine the physiological and socioecological systems of the "emotionally impaired" infant, enabling appropriate mediation strategies to be initiated. Other assessment instruments used in infancy have been developed by Uzgiris and Hunt (1975), Nancy Bayley (1968), and Murphy (1968, 1976).

Temperament As An Assessment Tool

Certain temperamental characteristics have been shown to be somewhat predictive of the development of behavior disorders in children (Thomas, Chess and Birch, 1968; Graham, Rutter, and George, 1973). The Graham et al (1973) study represents an attempt to see whether the findings of Thomas and his co-workers could be replicated on a different population. Despite certain disagreements, the Graham study does support the validity of the theoretical framework provided by Thomas et al (1968). Certain so-called "temperamental characteristics" were reliably identified, and some temperamental characteristics were seen as predictive of later development of psychiatric disorders in children. There is a growing body of evidence supporting

> the notion that a child, by virtue of his personality structure, requires handling geared to his individuality if he is to stand the best chance of avoiding the development of psychiatric disorders. (Graham, et al., 1973)

Further research addressing the refinement of a temperamental assessment tool is warranted, and should have widespread applicability.

Psychiatric Examination

In Thomas et al (1968), certain syndromes were viewed as warning signals that may be in need of follow-up psychiatric evaluation. These included:

> *(1) a report that development was significantly below the norm in various areas of functioning; (2) repeated self-destructive or self-endangering behaviors in a child at an age when danger could be comprehended; (3) inadequacy of contact with the environment or significant unresponsiveness in relation to age-specific expectations; (4) flagrant flouting of social conventions, such as unconcealed masturbation in a school-age child; (5) significant and continued disturbance in language development and speech; (6) indications of perceptual or perceptual-motor inadequacies; (7) isolation from peers or persistent annoying or aggressive behavior toward them that progressively isolated the child; (8) school failure in the absence of any evidence of intellectual deficit. (p. 31)*

If the child's presenting state is such that it warrants further examination, usually the therapist will observe or directly encounter the child in a playroom setting (Lourie, E. and Rieger, R., 1974). The preschool child who is in need of examination will receive a set of tests and a variety of toys in the playroom, which are determined by his age and presenting symptom complex. It is particularly important for the examiner to be able to read the non-verbal language of the child because,by four or five years of age,a child usually has learned to use words as a defense or cover-up for what they are really feeling (Lourie and Rieger, 1974). On hand in the playroom should be a variety of toys so the examiner can explore the child's developmental and interpersonal concerns, and the child's method of dealing with these issues.

As the child plays by himself, with the therapist observing and reflecting on the child's play behavior, Erikson (1963) states that the

> *child can be counted upon to bring into play whatever aspects of his ego have been ruffled most by rough going in the social seas. This forms the fundamental condition for diagnostic reliance on play therapy. (p. 221-222)*

Psychological Tests

These tests are used as a function

> of the preferences of the team members, or of practical scheduling problems, or most importantly, of the questions that are asked about the child. (Lourie and Rieger, 1974, p. 15)

The goal of psychological testing is the exploration of the child's current functioning state which has not been adequately explained by the psychiatric examination or by the child's developmental history. Psychological examinations are usually mediated through the use of a variety of psychological tests, with an interview and clinical observation of the child (Lourie and Rieger, 1974). Tests used prior to school are subdivided into two areas: infant tests designed for the first 18 months, and preschool tests which cover the ages of 18 to 60 months (Anastasi, 1975). According to Lourie and Rieger (1974), a psychological test may be defined

> as a systematic procedure for comparing the behavior (performance, characteristics, responses) of an individual to a criterion, the criterion usually being the age appropriate behavior of the population on which the test was standardized. (p. 15)

Between the ages of 18 months to five years, testing of the preschool child in single session samples of behavior is an unreliable method (Lourie and Rieger, 1974). The above can be considered unreliable because of general nature of a child's

> short attention span, distractibility, insistence on immediate gratification, and discharge of tension. (p. 22)

Instead, repeated samples of behavior taken over time may present a more adequate picture of an individual child's presenting state. Attention should also be given to the environmental conditions, particularly if they vary.

Infant testing is usually done when the child is either lying down or supported on someone's lap (Anastasi, 1975). The tests used at this age are primarily controlled observations of sensorimotor development. At the preschool level, testing becomes more of an interpersonal process which increases the levels of complexity and, therefore, difficulty (Anastasi, 1975). Within this age range, zero to five years, the examiner's knowledge is put to the greatest test of patience, skill and flexibility.

According to Lourie and Rieger, the most commonly used tests for the preschool child are the Stanford-Binet Intelligence Scale (Terman et al., 1960), the Merrill-Palmer Scale of Mental Tests (Stutsman, 1931), and the Minnesota Preschool Scale (Goodenough et al., 1940). In addition, Lourie and Rieger mention other tests being used in the field, while providing a discussion and comparison between the tests. Anastasi (1975) provides a list of tests usable for the infant and preschool child. These tests are:

> Bayley Scales of Infant Development (Bayley, 1969), Children's Apperception Test (Bellak and Bellak, 1965), Columbia Mental Maturity Scale (Burgomeister and Blum, 1972), McCarthy Scales of Children's Abilities (McCarthy, 1972), Rorschach (Rorschach, 1966), Rosenzweig Picture Frustration Study: Form for Children (P-F) (Rosenzweig, 1960), Thematic Apperception Test (Murray, 1943), and Wechsler Preschool and Primary Scale of Intelligence (Wechsler, 1967).

When developing a prekindergarten assessment scale for learning disorders Mardel and Goldenberg (1975) developed a conceptual model which included

> ... major areas of a child's functioning: sensory capacity, motor skills, affective behaviors, social skills, and language development. (p. 140)

The list of tests provided includes a wide variety of tests one could use in the psychological testing of children with an "affective impairment". They list such tests as California Preschool Social Competency Scale (Levine, 1969), Child Behavior Rating Scale (Cassel, 1962), Denver Developmental Screening Test (Frankenburg, et al., 1968), Preschool Language Scales (Zimmerman et al., 1969), Vineland Social Maturity Scale (Doll, 1935-53), Preschool Self Concept Picture Test (Woolner, 1969), and Developmental Potential of Preschool Children (Haeusserman, 1958).

Of course, the entire list of tests used to assess a child's presenting state are not provided. It is advised that persons wishing to utilize any test or assessment device check further into the above mentioned devices.

Family Diagnosis

Ackerman and Behrens (1974) have adopted a broader interpretation of psychiatric disorders than is currently given by standard classification systems. They believe that the psychiatric disorder is a family phenomena,

> a cluster of multiple disturbances among the members of the family group, interdependent, interacting, and emerging in series across time. (p. 38)

When evaluating the presenting state of the family or primary system, Ackerman and Behrens have developed criteria measuring the level of family coping, which "has as its purpose, the protection of the integrity, continuity and growth of the family" (p. 43).

Any attempt at assessment, whether it be an adult or child, is more clinically relevant when viewed in light of the total matrix of the family behavioral system. Accordingly, the family system is viewed as an open system of behavior, with an ongoing life cycle, uniquely its own. In order to diagnostically evaluate the presenting state of the family system, Ackerman and Behrens offer a guide for the organization of data concerning the family system.

Family assessment is a potential means for identifying the psychosocial factors which make up the family's entity. This information is usable as a basis of classification for the potentials of health and growth characteristic of the family, and as a method of correlating the dynamics of family and individual behavior (Ackerman and Behrens, 1974).

Childhood Psychosis: Assessment Uncertainty

Among theorists and researchers, there is considerable uncertainty in regard to the use of the term "childhood psychosis". In reviewing the literature, the terms autism, childhood schizophrenia, symbiotic psychosis, boarderline psychosis, atypical ego development, and ego deviant are all used to explain this population (Baltaxe and Simmons, 1975).

Kanner's (1943) original description of autism includes these characteristics: profound withdrawal from contact with people, an obsessive desire for the preservation of sameness, a skillful relation to objects, the retention of an intelligent and pensive physiognomy, and either mutism or the kind of language that does not seem intended to serve the purpose of interpersonal communication.

Rutter (1970) suggests that the diagnosis of early infantile autism should be restricted to children displaying characteristics of three groups of abnormalities: autism (as already described), delays in speech and language development, and ritualistic and compulsive phenomena.

Behavior changes in children occur as a result of the interactive effects of maturation, social experience and education (Morley, 1971). Therefore, a careful account of the continuously changing status of a child due to environmental exchanges should be considered when re-evaluating a previous diagnosis of childhood psychosis.

In a study conducted by DeMyer et al (1971), five systems in diagnosing childhood schizophrenia and infantile autism were compared. The study revealed much uncertainty and disagreement in definitions of diagnostic terms, importance of various criteria used in evaluation and cut-off points of severity for these two conditions. It was found that most individuals concerned with diagnostic criteria rely on either Kanner's original descriptions (1944) or checklist systems devised by Polar and Spencer (1959), Rimland (1964), Lotter (1966), Rendle-Short and Clancey (1968) and the British Working Party headed by Creak (1961).

The DeMyer et al (1971) study represents the first attempt to compare a variety of checklists referring to the same population. Diagnostic systems being evaluated were: 1) DeMyer-Churchill Categorical System (tests for early schizophrenia, primary autism, secondary autism, and non-psychotic subnormal), 2) Rimland's Checklist, 3) The Polar and Spencer Checklist, 4) Lotter's Checklist, 5) British Working Party (BWP) Checklist. It was found that the BWP term for schizophrenia was similar to the term for autism used by others. The term autism in the checklist devised by DeMyer-Churchill corresponds to Rimland's concept of infantile autism in his E-1 version. The DeMyer-Churchill system was the only one that distinguished psychotic subgroups; the other checklists differentiated psychotic from non-psychotic children. DeMyer et al (1971) concluded that any one of these checklists differentiated early schizophrenia from autistic children as a group separate from non-psychotic children. If refined evaluations are necessary, subgroups cannot be differentiated without significant loss in reliability.

DeMyer et al (1971) noted that a major problem found in all diagnostic checklists was the absence of rigorous validity studies. Until validity studies are conducted, none of the checklists can be considered more useful than others with respect to etiology, correct treatment or prognosis of infantile autism. At best, all of the checklists can serve as screening instruments.

Kanner and Eisenberg (1956) have described the language development of children perceived as autistic as the most striking characteristic of the dysfunction. In many cases, the lack or delay of language or language peculiarities were factors which brought the child in for clinical evaluation (Baltaxe and Simmons, 1975).

In general, the language disorder by itself is not enough to make a clinical judgment that the child is autistic, even though language disorders seem to prevail in all of the children regardless of stage of development (Baltaxe and Simmons, 1975). Rutter et al (1967), found that symptoms of withdrawal and isolation were not significantly associated with outcome. Instead, they found presence or absence of language was significant for predicting outcome of the autistic child. Baltaxe and Simmons (1975) state that many autistic children even at adolescence have deficits primarily in the area of semantics and prosodic features of language. In a study conducted by Wolf and Chess (1965), language behavior was directly related to clinical status. The number of different words and average length of utterances were found to correlate highly with clinical assessment of severity of the illness. In their study, the most severely affected children used vowel sounds only, and the ratio of repetitive speech compared to original speech was found to be an index of the severity of illness.

Many investigators have discussed the prognostic significance of the language disturbance found in childhood psychosis. Creak (1961) believed that prognosis was poor for children with a prolonged failure to develop speech. In a series of follow-up studies, Eisenberg (1956), found that if an autistic child failed to develop speech before the age of five, prognosis was limited. Rutter, Bartak and Newman (1971) suggest that lack of language development, when accompanied by an I.Q. below 60, was an indication of a poor outcome.

In the selected information just presented, a few trends can be noted *which may be of interest to those interested in further research: 1) interest in an area of significant individual differences in behavioral styles amongst infants, 2) necessity for and possible interest in clarification of classification problems with renewed attention to problems of predictive validity, particularly relating to speech and language dysfunctions.*

Any further development relating to assessment procedures of children "at-risk" or of those already diagnosed as "affectively impaired" should have as a corresponding interest the nature of the socioecological conditions under which the diagnosis is formulated.

Reflections

When approaching an understanding of assessment, it is important to determine the degree to which the instrument used as an assessment device models the real situation. In assessment, a traditional dichotomy exists. Every assessment instrument operates against an implicit background which is not made explicit; but is still taken as normative. Assessment for the most part is viewed in isolation; as though assessment is only based on characteristics of an individual, without recognizing that every given assessment instrument is, in fact, always used relative to some implicit environment, where a potential adaptive fit is in the process of negotiation. The degree to which there is adequate simulation will determine the effectiveness of the diagnostic instrument as a predictor of adaptation to a specific environment. Therefore, assessment instruments ought to be explicitly organized or developed in relation to specific environments.

Assessment instruments are limited because they are designed to pick out certain characteristics for specific groups. Clearly, the "handicapped" population has as many individual differences as commonalities. Another limitation of assessment instruments is the rigidity and constraints in the tool, which overlook creative abilities of the individual and the effects of novelty of the situation on performance. Acknowledgement of these realities will allow us to appreciate that criteria used to select, categories used to label and assessment instruments used to diagnose and pinpoint, will only be appropriate for at best a segment of the population's range of diversity. Most importantly, there needs to be developed assessment tests which can measure *the four functions of the attachment relationship as presented previously. When this occurs, we will be better able to understand and hence help children.*

MEDIATION

Mediation strategies in any population defined as "handicapped" are at best applicable to only a segment of the population. There is no one "best" program; there are only alternative mediation programs that may possibly be structured so that achievement of an adaptive fit is accomplished with minimal difficulty. If an adaptive fit cannot be achieved, this is not to be taken as an adverse reflection upon the individual or upon the environment. Rather it is to be seen as a demonstration of the irreparable fact that a fit cannot be achieved for each and every potential individual-environmental relationship. This perspective leads us to recognize that it is illusory to search for the ultimate criteria, the ultimate categories, the ultimate treatments or contexts. Hence it is not a question of whether a program works for all members of a given category but whether the program works for some children. The question becomes whether for some children the program enhances their development, their contributions to their world--in a word, their humanity.

Fleming (1973) adopted seven basic premises which could be used as guidelines for programs dealing with "affective impairments" in children. Seagull and Johnson (1966) believe that the realm of significant learning for "affectively impaired" children is much broader than circumscribed skill acquisition. For the "affectively impaired" child the teacher-learning process encompasses:

> *(a) Increased awareness of self, others, and environmental interactions.*
>
> *(b) The attainment of reasonable levels of goal setting for self and reasonable demands upon others.*
>
> *(c) Learning the ability to engage in risk taking behavior which is implicit in critical thinking and in independent behavior.*
>
> *(d) The adoption of alternative ways of behaving in order to receive positive rather than negative responses. (p. 101)*

Morse (1964) concurs with Caplan's (1963) concern that:

> *the significant intervention must be aligned to the total life of the child. The implication of this for the classroom teacher is clear: no matter how well designed and executed classroom centered intervention processes may be, their impact will be limited in scope unless they touch the critical issues in a child's life. (Morse, 1966, 29-30)*

Child Therapy

Child guidance clinics seek to bring emotional help to children through what is generally called play therapy;either individually, in groups, or by training the parents to act as therapists (Guerney, 1964, 1966). When a child is brought into a clinic for treatment, it is usually because the parent wants it, not the child. The child enters this experience with a variety of feelings--fear, suspicion, caution, resistance, enthusiasm--in other words, the way most children typically react to new situations (Axline, 1969). In this type of therapy,the child "plays out" his emotional conflicts through the medium of play. Erik Erikson (1963) says "to play it out is the most natural self healing measure childhood affords" (p. 222).

Play therapy may involve only the child and the therapist or perhaps a group of children. Props such as puppets, dolls, and other toys are used as vehicles for expressing attitudes and conflicts, since it is assumed that the young child can express his thoughts and fantasies more directly in play than in "talking therapy". Some play therapists freely interpret children's behavior at particular points in play. Others,with a more client-centered view,rely less on verbalizing problems and ideas and more on the effects of healthy play and social interactions.

Psychotherapy techniques used with children can be listed under three major systems, "psychoanalytic theories, of the evolution and resolution of emotional disturbances; social-learning-behavior theories of psychopathology and treatment, and developmental theories" (Harrison, 1975, p. 2215-16). "The variety of approaches are derived from the therapists perceptions of the child's needs and his/her individual style" (p. 2220).

The therapist plays a number of different roles in child therapy (Anthony, 1974). Through the process of therapy, the child feels a sense of self and self value. The child feels the human warmth and empathy from the adult. From this relationship the child begins to realize that this adult trusts him and believes in him. Moustakas (1959) feels this is of ultimate importance, especially when we understand the emotional dilemma of the child with an affective impairment.

Individual and group psychotherapy are the two predominant modes used in treating a child with affective impairments. For an understanding of the principles of child psychotherapy the reader may refer to these sources: (Allen, 1942; Anthony, 1964, 1965, 1974; Axline, 1969; Brody, 1964; Buxbaum, 1954; Caplan, 1964; Carek, 1972; Casuso, 1965; Dollard & Miller, 1950; Erikson, 1940; Eysenck, 1960; Freud, A., 1946; Furman, 1957; Gardener, 1971, 1975; Geleerd, 1967; Ginnott, 1961; Group for the Advancement of Psychiatry, 1973; Guerney, 1964, 1966; Harrison, 1975; Harrison & Carek, 1966; Kanner, 1972; Klein, 1932; Kraft, 1975; Moustakas, 1959, 1973; Pearson, 1968; Rose, 1972; Reisman, 1973; Rogers, 1951; Rosenthal & Levine, 1971; Schiffer, 1969; Slavson & Schiffer, 1975; Smirnoff, 1971; Speers & Lansing, 1965; Werry & Woolersheim, 1967; Wolman, 1972).

Behavior Therapy

The behavior modification approach focuses on behavior that "is currently observable or reportable rather than on conflicts among intrapsychic forces or inferred components of personality" (Achenbach, 1974, p. 332). The two most basic paradigms for behavior modification are respondent (Pavlovian, classical) conditioning and operant conditioning (Achenback, 1974; Franks & Wilson, 1973). Behavioral approaches have been used for treating a wide range of affective impairments, from phobias to psychoses.

Specific techniques commonly used for affective impairments are: desentization, operant conditioning, aversion therapy, implosive therapy, modeling and imitation, and the use of parents as behavior modifers (Achenbach, 1974). For a review of the current behavioral approaches, the reader may want to see these sources: Achenback, 1974, Franks, 1969; Franks & Wilson, 1973; Lovibond & Coote, 1970; Rachman, 1968; Tharp & Wetzel, 1970.

Family Therapy

The family is frequently implicated in personality dysfunction and other types of maladaptive behavior. A major finding of child guidance clinics was that treating the child was not enough if a healthy resolution of maladaptive behaviors is to take place (Levine & Levine, 1970). Social workers have emphasized the importance of treating the mother, although the father is still largely ignored (Burgum, 1942). More recently, evidence has been mounting that the characteristics of the father and his degree of involvement in the family have a potent effect on the child's affective development (Biller, 1971; Cortes & Fleming, 1970; Rutter, 1971).

From a preventive standpoint, the family is important as the locus of much of the child's earliest learning and development. The mediation task is to enumerate the family-life variables that are not conducive to the development of adaptive behavior. A family that is ridden by tension and instability provides just the sort of environment in which maladaptation grows. Parents who are confused and who themselves are unable to respond effectively to the stresses of life can be expected to do poorly in providing their children with effective models of behavior and reinforcement for achieving developmentally significant goals. The role of the family therapist is to

> search for the forces, both open and hidden, that affect the well being of the family and its members. The therapist assays the main patterns of conflict and coping, the patterns of complementarity, and interplay of family defense and individual defense. (Ackerman & Behrens, 1974, p. 39-40)

S. Cooper (1974) suggests that there are three basic aims when working with parents:

> (1) to develop an alliance that will support the child's growth in treatment, (2) to secure necessary information about the child and his experiences, (3) to help bring about changes in the environment to further the child's growth and development. (p. 167)

For a review of various techniques used in family therapy the following sources are valuable: (Ackerman, 1958, 1966; Ackerman, et al., 1970; Ackerman & Sobel, 1950; Bell, 1961; Boszormenyi-Nagy, 1965; Cooper, 1974; Haley & Glick, 1971; Hoffman & Long, 1969; Minuchin, 1974; Satir, 1964; Speck, 1967; Zuk & Boszormenyi-Nagy, 1967).

Residential Treatment and Educational Programs

Laffey et al., (1974) state that there are four general categories of inpatient treatment facilities for children: "(1) the shelter or placement unit, (2) the residential treatment center, (3) the inpatient psychiatric service, and (4) the state hospital unit." The children seen in these facilities have extremely complex problems such as: "those of deep emotional hunger, high levels of aggression, violent uncontrolled behavior, bizarre and incomprehensible reaction patterns and the like" (Joint Commission on Mental Health of Children, 1970, p. 271).

These children need more than just individual treatment. They need a program encompassing their total development, which is located the least possible distance from their primary system setting. For the most part, residential treatment programs have not worked with the child's family, school or community. In general, residential treatment programs are doing a very poor job in supplying care for children considered "disturbed" (Joint Commission on Mental Health of Children, 1970). Fenichel et al., (1960) list disadvantages often found in residential treatment as: (1) programs are often quite a distance from the child's home, making work with the parents difficult, (2) the child's absence may result in a reorganization of the family which excludes the child's reentry, (3) the child may become institutionalized, furthering the difficulties of reintegrating the child into community life, (4) removal of the child causes the child to lose the positive aspects of his environment which harms both the parents and the child.

Numerous residential and educational programs currently exist in the field. Educational programs many times are separate from residential treatment programs; the presenting state of some children is such that it cannot be dealt with by the public school system. These children receive education in special programs designed for the "affectively impaired" or "emotionally disturbed" child (Berlin 1975; Achenback, 1974; Knoblock, 1970; Hewitt, 1968; Morse, 1964; Cohen, 1974; Gadner & Sperry, 1974).

Residential programs attempt to provide the necessary conditions for the child's survival and development through sensitive staff, individual or group psychotherapy, family therapy and educational programs. Various residential programs are reviewed in the following sources: (Alt, 1961; American Psychiatric Association, 1964; Bettleheim & Sylvester, 1948, 1949; Clemens, 1971; Colvin, 1961; D'Amato, 1969; Davids, et al., 1965; Fenichel, 1960; Greenwood, 1955; Halpern, 1970; Hansan, et al., 1965; Hirschberg, 1970; Joint Commission on Mental Health of Children, 1970; Krug, 1950; Laffey, et al., 1974; Lewis, 1975; Marsden, 1970; Polsky & Claster, 1968; Polsky et al., 1970; Portnoy, et al., 1972; Redl, 1959; Schopler et al., 1971; Weiss & Weiss, 1969).

Childhood Psychosis: Mediation

Treatment approaches for the psychotic child range from psychoanalysis and psychotherapy to behavior therapy and chemotherapy. Numerous programs exist and a review of these programs can be found in Achenback, 1974; Arieti, *1974; Baltaxe & Simmons, 1975; Bettelheim, 1967; Eksten, 1975; Mahler et al., 1959; May, 1975; Rimland, 1964; Wing, 1966.*

Mahler (1958, 1959) suggests that the autistic child has not progressed beyond the state in which only internal stimuli can be perceived. Because he has not developed clear perceptions of objects outside himself, including his mother, he is unable to respond to her or to others. Mahler (1965) sees the major tool in treatment of the autistic child, recreating the child's symbiotic relation to the mother. She tries to treat mother and child together. According to Mahler, treatment should involve: (1) learning greater body integrity and sense of identity, (2) the development of object relations, and (3) restoring missing ego functions. By reestablishing the mother-child relationship, the conditioned outlook of the autistic child may be overcome.

Sarvis & Garcia (1961) propose psychotherapy as a recommended treatment. Therapy in their opinion should be limited to two or three hourly sessions per week. In treating the autistic child the therapist should act as a representation of reality, helping the child to come to grips with reality.

Kanner (1954) states that infantile autism has never been helped by any form of therapy treatment. Rimland (1964) adamantly goes along with Kanner's position. He suggests that the best treatment will be someday found in chemotherapy. Rimland would like to see further experimentation done with the use of drugs such as Decanol or even LSD.

Bettelheim (1967) claims that "unsuccessful" therapy is due to treatment not taking place over a sufficient length of time. Bettelheim (1967) believes that the environment is the cause of autism, which develops as a response to such extremely negative parental feelings that the child abandons the hope for love. He explains the severity of the child's response by citing the critical periods of development during which the effects of this extreme situation might be particularly profound. Treatment must involve placing the child in a new environment, full time, with a person who is sensitive and loving. This will help the autistic child's latent personality to unfold. Bettelheim believes years of intensive therapy are needed before the child will regain his lost "self". In support of his view Bettelheim (1967) cites Eisenberg's (1956) follow-up study of autistic children. Out of a group of sixty-three children, three children received once or twice-weekly sessions for two years. The outcome for two of these children was rated "fair" to "good". Since Bettelheim thinks autism is a severe case of childhood schizophrenia, his results or therapy treatment might be more adapted toward a different population.

Ferster (1961) stresses improving overt behavior instead of dealing only with intrapsychic manifestations (i.e., development of the ego). In his program, parental reinforcers are used to shape desirable behavior and the removal of parental reinforcement is used to extinguish undesirable behaviors. Better and quicker results are claimed than with the psycotherapy treatment procedure.

Behavior modification programs have been shown to be effective in dealing with a diversity of behavioral problems found in psychotic children (Lovaas, 1966; Lovass et al., 1966, 1967; and Lovaas, Koegel, Simmons, & Long, 1973). Lovaas et al., (1973) present measures of generalization and follow-up data on 20 children treated with behavior therapy over the last 7 years. The children treated are described by the following dimensions: (1) sensory deficit, (2) severe affect isolation, (3) self-stimulatory behavior, (4) mutism, (5) echolalic speech, (6) receptive speech, (7) social and self-help behaviors, and (8) self-destructive or self-mutilatory. Treatment relied heavily on several operations: (1) contingent reinforcement withdrawal, (2) contingent aversive stimulation, and (3) reinforcement of incompatible behavior. Reinforcers were selected on the basis of value for a particular child. The summary of findings include:

> (1) Inappropriate behaviors (self-stimulation and echolalia) decreased during treatment, and appropriate behaviors (appropriate speech, appropriate play, and social non-verbal behaviors) increased. (2) Spontaneous social interactions and the spontaneous use of language occurred about eight months into treatment for some of the children. (3) I.Q.s and social quotients reflected improvement during treatment. (4) There were no exceptions to the improvement, however, some of the children improved more than others. (5) Follow-up measures recorded one to four years after treatment showed that large differences between groups of children depended upon the post-treatment environment (those groups whose parents were trained to carry out behavior therapy continued to improve, while children who were institutionalized regressed). (6) A brief reinstatemtnt of behavior therapy could temporarily reestablish some of the original therapeutic gains made by the children who were subsequently institutionalized. (p. 156)

Clancy and McBridge (1969) present a theoretical model of autism as a developmental process operating within the family social system. They see the first object of treatment as primary socialization, the development of affiliatory bonds between the child and his family. Second stage of treatment aims at establishing behaviors usually acquired in normal development, especially language.

The therapist who treats the child uses a simple approach throughout treatment, handing over the therapy processes to an appropriate member of the family. This treatment approach is described in more detail by Clancy & Rendle-Short (1968) and Clancy, Entch & Rendle-Short (1969).

Milieu therapy involves an ego-enhancing, realistic social environment. The procedures of milieu therapy, therefore, involve the design of a total environment that maximizes the child's opportunities for self-awareness and rehabilitation (Bettelheim, 1967; Bettelheim & Sylvester, 1949; Goldfarb, 1965; Osorio,1970; Redl, 1959; Robinson, 1957). Within a residential setting, events such as sleeping, dressing, eating and educational programs provide opportunities for human interaction and evoke behaviors to which the adults can respond on an individual basis. Through enhancement of the child's ego functions, milieu therapy attempts to improve the psychotic child's social interactions.

Language is one of the most significant deficits of psychotic children. A great deal of effort has gone into speech and language training programs. The success of these programs range from minimal to moderate (Baltaxe & Simmons, 1975). Most programs are based on a Skinnerian model of language acquisition. Behavior modification, using an operant approach, has been a central part of these language training programs (Hewett, 1965; Jensen & Womack, 1967). A variety of different reinforcers have been used for language imitation and production: food (Lovaas, 1966; Lovaas, et al., 1966) and a combination of tokens and food (Martain et al., 1966). In another, a language program was devised which followed the normal hierarchy of language development, achieving a degree of treatment success (Rubin, et al., 1967). This approach, according to Baltaxe & Simmons (1975) is more desirable because it corresponds to current therapeutic theory (Miller & Yoder, 1972). Baltaxe and Simmons (1975) offer a critical review of programs which use an acquisition-by-imitation model of language learning. Such programs do not follow recent postulates which assume that the capacity to label and recognize functional relationships are aspects of the innate language mechanism. Language deficits in this capacity have not been properly taken into consideration. A majority of the programs have not incorporated normal language development sequences into treatment.

Since studies done on psychotic linguistic deficits are not yet available, language training programs have not been based on a clear understanding of deficits (Baltaxe & Simmons, 1975). Recent linguistic models of language *acquisition (McNeil, 1970) postulate that general language learning is not primarily dependent on imitation; i.e., normal children presumably learn language by the speech they hear without direct instructions. Current psycholinguistic findings are included in guidelines for programs suggested by Baltaxe and Simmons (1975):*

> *(1) The basic linguistic capacities exhibited by young children and the patterns of normal language development are considered, (2) The child's specific linguistic deficits are outlined before a program is developed, (3) Training is focused on one feature of language at a time and directed toward a basic linguistic concept rather than a superficial feature of language, (4) The child's ability to abstract linguistic rules and form generalizations about language structure rather than imitative ability is seen as the primary target, (5) The training situation is structured and training is carried out systematically until the child has acquired the particular feature, (6) Language stimuli are coupled with visual stimuli such as colors because of empirical observations that autistic children appear particularly responsive to such stimuli in a learning situation, (7) Food reinforcers are utilized, especially prior to the establishment of secondary social reinforcers (verbal praise, smiles. (p. 453)*

The specific strategies for mediation previously suggested are numerous. Most, as can be seen from careful reading, follow a deficit model approach. Most seek to alleviate problems in the child, with or without the help of members of the primary system. Over the years, it is the children who have had to try to adapt to particular programs and adjust to reinforcers or therapy techniques. Thus it is refreshing to read Rhodes' (1966) discussion of an "ecological management" approach in which the members of the adjunct systems share responsibility for creating an environment in which adults and children can negotiate co-adaptively. By creating an environment in which "disturbing behaviors" have less opportunity to occur because of increased flexibility, a child's behavior can be situationally evaluated.

The area of "affective impairment" or "emotional disturbance" has had a great deal of attention for a very long time. Unfortunately only a few individuals have concentrated their efforts primarily on very young developing children. Occasionally these efforts have been developmentally fragmented, usually the efforts are in isolation from the critical members of the primary system, and almost always the programs emphasize correcting deficiencies (as identified by experts) rather than building on strengths.

There are many critical areas in need of research. Perhaps the etiological and behavioral controversies could cease long enough so that other areas could be *investigated, particularly from a longitudinal basis. The notion of mutually beneficial socio-ecological adaptation to differing environments is of utmost concern to the child who, as part of his presenting state, appears to manifest an "affective impairment".*

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TOWARD AN UNDERSTANDING OF LEARNING DISABILITIES

Nancy A. Carlson

OVERVIEW

A relatively recent addition to the categorization compendium, "learning disabilities" has nevertheless received widespread notoriety and acclaim. In the past ten years, the particular category of "L.D." has received an enormous amount of attention at every level (federal, state, local, school, family, and so on). The category has fluctuated widely in terms of the naming phenomenon: "minimal brain dysfunction", "perceptual dysfunction", "dyslexia", "educationally handicapped"; as many as fifty names have been applied to this phenomena (Brutten et al., 1973). Whatever current order that exists in the field may be attributed to Kirk and Bateman (1962) who introduced the term "learning disability" which has achieved wide acceptance (Ross, 1976). Each particular frame of reference, however, brought forth different (but not necessarily mutually exclusive) criteria for inclusion, assessment procedures, and programs, methods, and materials.

The range of characteristics described, percentages quoted, programs espoused, etc. is so incredibly diverse and complex that one often wonders if there is such a thing. Perhaps there is, perhaps there isn't. According to Ross (1976), it is clear "that there is no such thing as a learning disability, that it is a label we apply to children who have special teaching needs, not an immutable entity that somehow exists in its own right" (p. 7).

Relative to a socio-ecological model of adaptive behavior and functioning, however, there are certain situations that may be considered "at risk" and there are certain presenting states of individuals that may also be "at risk" for developing within commonly accepted developmental progressions.

> A child's growth ordinarily follows a well-timed developmental course. But nature can break down. For a variety of reasons that are not fully understood, development can be slowed or distorted. Maturational lag puts the child into immediate conflict with his society. Society is always straining to create order. So it makes demands of children according to their age levels. (Brutten et al., 1973, p. 7)

PRESENTING STATE

In the very young child from birth to age five, the presenting state of the organism may vary a great deal, but still fall within acceptable parameters. A child may be "slow to walk" or "slow to talk", but this may be viewed as appropriate in certain situations. The differences in a child's behavior are acceptable in certain primary and adjunct systems.

In other instances, a child may be seen as lagging in so many developmental areas that concern is raised. Or perhaps one area is seen as so remarkably exceptional that problems arise. The question then becomes, what are the most significant areas of concern in the child "at risk" for developing severe learning problems, and whom do they affect?

Areas of Concern

Using the generally accepted federal definition, there are definite areas of exclusion. In the categorical and labeling process, children are not considered "L.D." if they have "learning problems. . . due primarily to visual, hearing or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage" (P.L. 91-230, 1969).

Those who are considered as "learning disabled" may "exhibit a disorder in one or more of the basic psychological processes involved in understanding or using spoken or written languages (listening, thinking, talking, reading, writing, spelling or arithmetic)" (P.L. 91-230, 1969). It becomes obvious that, by definition, the presenting state of the child causing most concern is related to school functioning. The majority of children about whom concern is registered are those participating or about to participate in school programs (Brutten, et al., 1973).

Things that concern a kindergarten teacher ("he doesn't hold his pencil correctly", "she can't skip") may not be concerns of adults when the child is younger. Nevertheless there are legitimate concerns. We cannot overlook the fact that somewhere between 2% and 40% of the nation's population of young children manifest an "at risk" condition for which appropriate mediation is necessary.

That the problem is not solely or completely the child's is a given in the socio-ecological model. Effective adaptation for a child who sees the world differently is primarily contingent upon effective adaptation on the part of the members of the primary and adjunct systems.

Extrapolated from the literature, and targeted primarily to the young child, the following characteristics seem to appear with more or less regularity as being possible aspects of the presenting state of a young child "at risk":

--difficulty with words - confusion, disorders, absence of significant speech (Johnson and Myklebust, 1967)

--difficulty with sustained selective attention - distractibility, perseveration, hyperactivity, impulsivity (Ross, 1976)

--uneven pattern of development - extremely competent in one area, severely lagging in another (Lerner, 1971)

--discrepancy between achievement and potentiality - often in the early years only a "nagging doubt" (Lerner, 1971)

--difficulty with eye-hand coordination - seen at meals, play time, dressing, etc. (Myers and Hammill, 1969)

--difficulty with motor and spatial coordination - catching a ball, throwing a bean bag (Lerner, 1971)

--difficulty with interpersonal relationships - with members of the primary system and most adjunct systems, especially with peers (Hart and Jones, 1968)

To try to describe the presenting state of children categorized as "learning disabled" is, at best, difficult and probably realistically impossible. If we accept the assumption that each child is continuously undergoing assessment by interacting organisms within that child's environment (however informally), and if we further accept that the purpose of assessment is to allow us to evaluate, predict and hence plan, then the major dilemma in the presenting state of this type of child becomes very apparent. A common denominator when looking at characteristics relative to presenting state is the phenomenon "PREDICTABLY UNPREDICTABLE". Imagine the dilemma when no one can predict and thus no one knows what to do. And that, in fact, is the state of the art as well as the state of the individual, the primary, and the adjunct systems. No one really knows what to do on any kind of a scale, but particularly on a large scale.

But that is no surprise to us. A major paradigm upon which the socio-ecological model of adaptive behavior and functioning is based is that of *population diversity. There is no "ideal" or "average" learning disabled child. There is only diversity and hence confusion and mayhem when we attempt to classify.*

If the reader is unfamiliar with the scope and perplexity of theoretical and etiological considerations in the area of learning disabilities, the following major references are suggested for clarification: Frierson and Barbe, 1967; Hammill and Bartel, 1971; Hart and Jones, 1968; Johnson and Myklebust, 1967; Lerner, 1971; Luria, 1966; Myers and Hammill, 1969; Ross, 1976; and Sapir and Nitzberg, 1973. Even a minimal discussion is beyond the scope of this section.

However, there are some aspects of this particular category that deserve consideration, especially when there is concern for the very early developmental years.

PRIMARY SYSTEM

The effects on the members of a primary system of a child who may be described as "predictably unpredictable" are many. Reactions range from an occasionally dysfunctional exchange process (Kaplan, et al., 1973) to more extreme reactions to stress:

> *(One mother) waited until her husband had left for work, took his pistol from the bedroom closet shelf, loaded it and called her three young children into the living room. She lined them up in front of the fireplace... and prepared to kill each of them and then herself. (Brutten, et al., 1973, p. 12)*

An extreme reaction to stress? The child precipitating this action was six and had for years been the center of radiating concern of family and adjunct systems. This child had:

> *kicked out the slats of his crib at eleven months and had been in constant motion ever since. "Every night I had to make fifteen or twenty trips upstairs to get him back into his crib" (said his mother). "Finally, in frustration, I tied him spread-eagled to his crib with my husband's belts. I sat downstairs and cried, and he cried upstairs. Just to get dinner on the table for the other children, I had to tie him to the living-room railing each night with rope." (p. 13)*

And the situation did not improve. If anything it grew worse as everyone grew (rapidly) older:

> *Bobby had no fear. The day of the televised moon launch, his mother found him playing astronaut. He was about to jump out of a second-floor window. His parents put bars on his windows and a lock and*

> chain on his bedroom door to keep him from roaming at night. He had had forty stitches in his head by the age of three, because he kept climbing and falling - out of trees, off roofs. At six, he came home from school by walking along the roofs of houses. (p. 14)

At the age of ten, someone finally had the insight to appropriately assess the compromising state of the child and suggest mediation strategies. But for ten years the members of the family system had been through every conceivable kind of hell.

The situation is not always that desperate. Another young child within a different primary system is described in the following manner:

> If sent to Daddy's room to get a red sweater out of the bottom drawer, he might: (a) go to the dining room; (b) go to the bedroom but open the closet instead of the chest; (c) find the chest, but open the wrong drawer or all of them; (d) open the right drawer but bring back a handkerchief instead of the sweater; (e) get the sweater, but take it to the kitchen instead of back to Daddy; (f) put it on himself or decide to wash it in the bathroom; or (g) manage the whole deal but trip over a stool on the way back. (Hart and Jones, 1968, p. 17)

In a way, some of the "happenings" in the lives of such young children are funny; because our Western world often views "different" as funny or wierd. We as adults, provided we're only occasionally incompetent, can laugh at our own clumsiness or forgetfulness. But if we're always bumping into things? Or see everything backwards? Or can never remember our office phone?

Sometimes it's easier for members of a primary system to adapt to severe compromising conditions, or tangible, visible compromising states or even conditions about which members feel they know something. But the subtlety of this presenting state is such that no one really knows exactly what to do -- or even if there is any necessity to do something. It wouldn't be at all surprising to be told:

> "Why, he's just all boy--you don't understand boys"... by a well-meaning grandmother, or: "Spare the rod and spoil the child," (by) an annoyed neighbor. The confused mother who senses that her son is truly different from most of his friends, or the bewildered father who has already found that physical punishment is not the answer, soon become defensive at this unwarranted criticism of their offspring. (Levy, 1973, p. 84)

But the trauma and anxiety that members of a primary system are exposed to may be unnecessary. An "energized family" (Pratt, 1976) can spend its time positively coping (Kaplan, et al., 1973), by developing the necessary adaptive capacities (Murphy, 1975), by responding to change (Glasser and Glasser, 1970), and ultimately viewing the experience as a growth-producing and learning experience for all involved (Meadow and Meadow, 1971). A delighted mother once told the author that the process of organizing her family to creatively meet the needs of her child (whose youthful approach to life was quite atypical) caused a tremendous reorganization of the family structure that had widespread benefits to all (Carlson, 1974).

Indeed, the personal success stories of all time are highlighted by stories of adults who as children had tremendous difficulty coping with the unchanging and inflexible demands of the environment (Thompson, 1971). More recently, poignant stories of tremendous difficulties overcome lend a personal touch to the idea that successful adaptive behavior and functioning is possible even at tremendous cost and investment (Clark, 1973; Hart and Jones, 1968; Carlson, 1974). In all these cases, the environment was maximally adaptable.

> At this time Hannah doesn't really have a problem.... Her greatest difficulty is, and will be, with the adults who guide her in her development. It is difficult for them to forget that she no longer needs supervision, that she will not "wander off", that she can find her way, that "foggy days" and extreme reactions are things of the recent past. It is hard for us to remember, even though she continually reminds us that much of her present behavior is "normal"....
>
> It is even more difficult to recognize that expectations for performance and behavior must be three or more years ahead of what they were just six months ago. Without these expectations and goals, Hannah will persist in reminding those who err--with behavior that matches the lowered expectations; the only times she behaves like a "brain-injured" child is when she is expected to. It is as if she is saying, "O.K., you don't trust me to go outside alone, then I'll act accordingly." When she is trusted, she performs as any other child her age might. Perhaps Hannah has known this for a long time, and we adults are only now discovering it. Is this not a lesson adults might learn regarding most children? (Hart and Jones, 1960, p. 224)

Perhaps it is a lesson that can be learned. How do we go about learning it? Professional members of many adjunct systems have joined with parents to raise numerous, and as yet unsolved, questions about children in this peculiar category.

ADJUNCT SYSTEMS

The elementary school is the adjunct system that has primarily been involved in raising critical questions about the kind of mediation it might possibly undertake. More recently, secondary systems and the juvenile court system have raised questions also. But our concern is with the years from birth to five and perhaps that is the most appropriate place to begin. We have already recognized that many children experience difficulties early in school that become eminently more visible with targeted efforts and focused effects on children who are perceived to behave and/or learn differently.

Professionals have tried to create a necessary and comprehensive understanding of each individually presented problem. In some instances, we have done that by trying to be as thorough and complete as possible in our analysis of complex situational problems with specific emphasis on learner behavior.

In an area as complex and interactively rooted as learning disabilities, it is not surprising to note that there are a proliferation of assessment procedures subscribed to by professionals in varying fields. In the field of learning disabilities a multitude of professions hold sway, each espousing its own particular criteria and referent system.

At the very least, there are the fields of medicine, education, psychology, language and "other professions" (Lerner, 1971). To consider them "interdisciplinary" is to pay a compliment that may not be valid. Support can be found (Mann and Phillips, 1971) for the notion that instead of cohesively supporting, these fields contribute to a fractionalization of both the field and the child.

However, we have approached assessment from a model which supports the notion of individual and environmental diversity with an assumption of a possible match. Let us, therefore, look at a few commonly used assessment procedures currently in use which may or may not be predictors of adaptation to a specific environment. To try to gain increased relevancy, we have eliminated formal academic assessment instruments used in the first grade and beyond.

The constraints of most assessment procedures are magnified by the fact that we are discussing a group of very young children who are being "evaluated", often without regard for the unique and novel aspects of the presenting situation: new persons with whom they must interact, new response modes demanded of them;

inflexibility re: time, space, patterns of response, absence (in many cases) of familiar adults, lack of child's prior experience to help organize, psuedo-communication, lack of task relevance, etc.

While it may be possible to organizationally ascribe particular assessment procedures to particular fields, in actual practice there has been much cross-over. Therefore, the varying procedures will be arbitrarily designated as "formal", "informal", and "miscellaneous", the assumption being that there is some type of standardization amongst those found in the "formal" category, and that each procedure has built-in constraints in terms of the reliable use of the instrument.

Formal:

Ammons Full-Range Picture Vocabulary Test. Psychological Test Specialists. Forms A and B. Preschool to Adult. An individually administered test of receptive language vocabulary.

Bender-Gestalt Test. Western Psychological Services. An individually administered test of a child's performance in copying designs. The Koppitz Scoring (The Bender Gestalt Test for Young Children: E. Koppitz, N.Y.: Grune & Stratton, 1963) provides a developmental scoring system for young children to age 10.

Detroit Tests of Learning Aptitude. Bobbs Merrill. Ages 4-adult. An individual test of mental functioning. There are nineteen subtests measuring various elements of mental processing. In addition to an overall mental age score, each subtest yields a separate mental age score, allowing a flexible choice of tests for diagnostic purposes.

Developmental Test of Visual-Motor Integration. Follett. Ages 5-20. A visual-motor test of the subject's abilities in copying designs.

Frostig Developmental Test of Visual Perception. Consulting Psychologists Press. Ages 4-9. This test measures skill in five areas of visual perception.

Goodenough-Harris Drawing Test. Harcourt Brace & World. Provides a score of nonverbal intelligence obtained through an objective scoring of a child's drawing of a human figure.

Houston Test of Language Development. Houston Press. Part 1 (18 months-36 months); Part 2 (3-6 years). Assesses several areas of general language development.

Illinois Test of Psycholinguistic Abilities, Revised. University of Illinois Press. Individually administered test containing twelve subtests of dimensions of mental processes. Scores obtained on subtests can be used for diagnostic purposes.

Keystone Visual Survey Service for Schools. Keystone View Co. Individually administered visual screening device to determine the need for further referral for a visual examination.

Mecham Verbal Language Development Scale. American Guidance Service. An evaluation of language development obtained through an interview with an informant, usually a parent.

Metropolitan Achievement Tests. Harcourt, Brace & World. Grades 5-8. Battery of tests. Group administration. Measures several areas of academic achievement: reading, spelling, arithmetic.

Northwestern Syntax Screening Test. Northwestern University Press. Ages 3-7. Individually administered test of receptive and expressive syntactic linguistic abilities.

Peabody Individual Achievement Test. Pre-school to adult level. Contains five individually administered subtests: mathematics, reading recognition, reading comprehension, spelling, general information. American Guidance Services, Inc.

Peabody Picture Vocabulary Test. American Guidance Services. Ages 2-8. Individually administered test of receptive language vocabulary.

Purdue Perceptual Motor Survey. Charles E. Merrill. Ages 4-10. A series of tests for assessing motor development and motor skills.

Southern California Test Battery for Assessment of Dysfunction. Western Psychological Services. Ages 3-10. A battery containing the following separate tests: Southern California Kinesthesia and Tactile Perception Tests; Southern California Figure Ground Visual Perception Test; Southern California Motor Accuracy Test; Southern California Perceptual-Motor Tests; and the Ayers Space Test.

Spraings' Behavior Rating Scale. Northern California School for Cerebral Palsied Children. Subjective rating of personality integration, ego functioning and over-all performance.

SRA Primary Mental Abilities Tests. Science Research Associates. Grades K-adult. Group intelligence test designed to measure several subabilities of mental functioning. MA and IQ scores for verbal meaning, number facility, reasoning, perceptual speed, and spatial relations.

Stanford-Binet Intelligence Scale, Revised, 3rd edition. Houghton Mifflin. Ages 2-adult. Individual test of general intelligence. Yields MA and IQ scores. To be administered by trained psychological examiners.

Valett Developmental Survey of Basic Learning Abilities. Fearon Publishers. Ages 2-7. A survey of skill development in several areas of growth.

Vineland Social Maturity Scale. American Guidance Service. Birth-adult. Individual measure of social maturity and independence. Information derived by interview with an informant, usually a parent.

Wechsler Intelligence Scale for Children (WISC). Psychological Corp. Ages 5-15. Individual intelligence test that yields verbal and performance scores as well as full-scale MA and IQ scores. To be administered by trained psychological examiners.

Wechsler Preschool and Primary Scale of Intelligence (WPSI). Psychological Corp. Ages 4-6.5. Individual intelligence test similar to the WISC for preschool children. Yields verbal, performance and full-scale scores. To be administered by trained psychological examiners.

Wepman Test of Auditory Discrimination. Language Research Associates. Ages 5-9. Individual test of auditory discrimination of phoneme sounds.

Wide Range Achievement Test, Revised Edition (1965). Guidance Associates. Ages 5-adult. A brief individual test of word recognition, spelling, and arithmetic computation.

(taken from Lerner, 1971)

Informal:

Teacher observation

Teacher rating scales

Parent interview

Child interview

Peer rating (sociometric)

Sociological-type interview

Behavioral assessment

Miscellaneous:

Electroencephalogram

Dietary assessment

Electromyography

Reaction to specific drugs

And, of course, these are not all of the available assessment procedures. What is important to note, however, is that there are so many. Perhaps this is necessary. Perhaps to get a more comprehensive picture of a child's functioning in a given context we do need to be thorough. But then again, a belief in attention to detail suggests that we look at the specific environments in which the child must function equally carefully. Often contextual decisions are made about very young children prior to their entry into the context--i.e., "This child needs a special Kindergarten program." Is this assessment fair? How much opportunity is given to the so-called "different" child to adjust? How much adaptability in the ecological framework in which the child must function is even considered? How much adapting must be made and on whose part in order to achieve an "adaptive fit"? Certainly in the field of learning disabilities, there is a strong indication of a need to consider major adjustments and increasing adaptability on the part of the situational context and not just on the conduct of the child.

Increasing adaptability on the part of the situational context may mean increasing attention to research reports repeatedly occurring in the literature. Many studies report that assessment instruments currently in widespread use in the area of learning disabilities, do not in fact predict anything of value for educational planning (Smith and Marx, 1972; Hueffle, 1967; Olson, 1968).

Given the increasing attention to the controversial issue of unbiased testing, it is not surprising to find the L.D. field widely split on these issues. And given the traditional remedial model it is also not surprising that there is widespread interest in trying to find answers to the age-old question of "how do I find out what's wrong so that I can help this child?"

Perhaps in really examining this question, we must reexamine a few assumptions that have been in the forefront for the last few years.

One such assumption was closely examined by Hammil (1972). After analyzing numerous studies, he concluded that the correlational research at that time "did not support the proposition that visual perceptual ability and reading comprehension are related to a practical or meaningful degree in first and second grade pupils" (p. 42). He, in fact, questions the ability to "train" visual perception processes at all. This analysis was based upon the findings from 60 studies, and certainly has educational implications.

By "accurately diagnosing". by applying a label, it was thought that we were on the way to at least partially solving an individual's problem. Some scholars, however, (Towne and Joiner, 1968; Rhodes, 1966; Kronick, 1976) feel that by applying a label and treating a child differently, we create a situation that has many sociological implications (Bartel and Guskin, undated). Kronick suggests that we may, in fact, be creating a worse situation:

> In the process of altering a child's status from intact to learning disabled, we move him along a "betrayal funnel" until his status change has been accomplished. Although he may wish to cling to the illusion of normalcy or the supposition that his behavior represents a common variant of normal behavior, by placing him in a position of receiving special help, we view his behaviors as disabled. We insist that he face his disabilities so that he will be receptive to remediation. The poorly organized interactional skills projected by the learning disabled cause others to fear becoming involved in honest or in-depth interaction. Consequently, pseudo-communication occurs. The learning disabled person, assuming that this is real communication, models his interaction around this, which further contributes to his inability to produce effective interaction and to his vague concept of self. (p. 115)

A recent study (Foster et al., 1976) further substantiates the self-fulfilling prophecy phenomenon (Rosenthal and Jacobson, 1968). The results of the Foster Study "strongly suggest that the label of learning disabled generates a negative bias on the part of the classroom teacher and this bias is sufficient to alter teachers' observations of actual child behavior" (p. 60).

These results concur with Jones' (1972) suggestion that children labeled learning disabled are subject to negative stigmatization, and the already established relationship between teacher expectancy and classroom performance suggests that this label could be detrimental to the categorized child's educational experience (Bryan, 1974). The issue of teacher bias proceeding in a direction that can be considered negative is certainly an issue that needs further examination.

Although we may argue the issue of the negative sociological implications of labeling, and continue to search for answers to etiological questions, the fact that a child and members of the systems with which that child has established contact or associations are "at risk" to become dysfunctional is ever before us.

Given a socio-ecological perspective on achieving an adaptive fit, what are some of the facets that might contribute to the negotiation of critical developmental issues?

Snow (1975) and Salomon (1971) suggest that effective adaptation for all learners, and particularly those involved in the mainstreaming" phenomenon can best be accomplished by looking at all of the following from an aptitude-treatment-interactional (ATI) framework, which consists of at least the following: characteristics of learners, teacher style and attitude, treatment approach, and socio-ecological conditions. Effective individualization or personalization in terms of promoting learning and adaption is based on a "best fit" negotiation.

Over and above an approach suggesting attention to more variables is something that approaches promoting, respecting, and coping with diversity (Barton, 1976). The staff involved in Barton's program emphasize altering the preschool environment and not the child. Behaviors are pinpointed within environmental contexts and changed or altered as necessary. Respect for diversity is not a new notion. E. P. Torrance has written prolifically on the subject (1962, 1965, 1967) and offers substantial evidence that "differences are not deficits" (1974).

Lawrence and Winschel (1975) suggest that a focus for a program of mediation must include attention to establishing within the child an internal locus of control. This type of program could be seen as being in direct contradiction to several current programs of externally controlled behavioral reinforcement of "appropriate" (i.e., adult designated) activity (Carlson, 1974). Ultimately, a child's survival and development is better promoted by attention to modifications that allow the child to adaptively enter and function within ever-widening contexts with minimal or no support. Thus internal locus of control has possibilities.

The suggestion by Rhodes (1966) that we attend to the "ecological management" of a difficult situation cannot be overlooked. To do so we must continuously look at differences in children, probably as early as infancy (Thomas, Chess and Birch, 1968; Brazelton, 1973; DeHirsch et al., 1966; Murphy, 1975, 1976). We must also look at differences in primary systems (Pratt, 1976; Glasser and Glasser, 1970; Kaplan et al., 1973; Neifert and Gayton, 1973) and differences in adjunct systems (Barton, 1976; Kahn and Rosman, 1972; Adelman, 1972).

There are no easy answers. There is no handy-dandy kit or curriculum. Because individual diversity is so very essential, both to understand and promote, we must truly attend to providing environments that from a socio-ecological perspective will allow a young developing child to traverse alternate *pathways. But we must try to make that a comfortable pathway. We must try to provide support to members of the primary and adjunct systems so that they too can navigate difficult transitions. And we must stop putting up roadblocks and insisting on detours. We are far better off exploring alternative pathways.*

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PART IV

SOME IMPLICATIONS FOR FUTURE RESEARCH

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PART IV

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We have attempted to review and integrate studies by interdisciplinary investigators which seem to relate to the socio-ecological development of adaptive functioning in young children. Of particular importance has been the notion of "at risk" as it applies both to a child and the systems to which the child is linked. We have hypothesized some integrative concepts of development and proposed a model through which to view these concepts. In the course of our work, many implications for future research have surfaced. Many of these research implications are interwoven within the context of the particular aspect being described throughout this report. Rereading this report will serve to attach context to the particular implications which are only briefly described in this section.

As our review during the past year has involved navigation within and between disciplines, it seems appropriate for the funding responsibilities of future research in adaptive behavior to be multidisciplinary (multi- or inter-agency) also. The Bureau of Education for the Handicapped, National Institute of Mental Health, National Institute of Education, Office of Child Development, and the U.S. Public Health Service seem to be related agencies. Since it has previously demonstrated its willingness to participate in such endeavors, BEH may be the necessary catalyst to coordinate and activate inter-agency efforts.

General and Basic Considerations of the Nature of Future Research

The nature, diversity, and multiplicity of aspects of individuals and systems as herein proposed may only be possible to investigate longitudinally; this type of study can provide the basis for both basic and applied research. For one to exist or be promoted without the other would seem to only confound the present situation of a plethora of applied research in education with no direct correspondence to a theoretical model. On the other hand, current theoretical models exist in isolation and have need of research to directly evaluate applicability.

Additionally, there is an overabundance of research on isolated aspects of situated functioning which has never effectively been melded into the whole from which it was separated. From our perspective this seems to have led to misunderstanding, misinterpretation, misguidance, and possibly to mistreatment of individuals whose isolated behavior (conduct out of context) fell below the expectations of adjunct systems. Investigations which will focus on interactional exchange processes, negotiation of issues, the characteristics of presenting states and systems, the mutual modification of expectations, the achievement of adaptive fits, and ecological mediation seem warranted. Bronfenbrenner (1974) supports the notion that a great deal of psychological research is invalid, not scientifically, but ecologically. He points out that removing the child from this accustomed environment, without consideration of the enduring aspects of his environment, reveals only a partial picture of the child's presenting state and that of the environment. Additional emphasis is needed on the interactions between systems. In addition, because of the relativity of situational functioning, cross-cultural and subcultural studies may provide some insight into alternative adaptational mechanisms and developmental pathways within the repertoire of other-cultural individuals (Mercer, 1976; Murphy & Moriarty, 1975).

Theoretically it is difficult to totally account for all of the interactive aspects which are characteristic of situated functioning. It may be impossible to operationalize these aspects for research purposes without a temporary unlinking from the whole. However, with at least as much reference data as we were able to compile, it seems critical to highlight four types of research that could be approved and funded. Each aspect is equally important in that it will contribute to the whole. In addition, there appears to be a dire necessity for some type of longitudinal monitoring and evaluation of educational and research efforts in the very early years, with dissemination of relevant information.

The types of research herein presented have been organized around components of the socio-ecological analysis and model of adaptive behavior and functioning. They are: 1) situated research, 2) studies of access and transition; 3) interactional studies; and 4) topographical research. Each will be presented relative to descriptors using an applied research base. Each is of equivalent high priority, but each might be addressed by different funding agencies and/or the same funding agency in different years.

Situated Research

There is a need to investigate a wide range of environments to which young children are attached. Attention must be paid to the relation of socio-ecological structure to behavior. Within this general assumption, the following specifics are recommended:

LOCATIONS: Studies may be conducted in homes, child care centers, special programs, hospitals, institutions, neighborhoods, etc.

TO INVESTIGATE: Within any or all of the above contexts, it is important to investigate all of the following:

a. Characteristics of the individual - using a variety of assessment instruments already developed, or adapted from those already developed, it should be possible to study the young child within the specific contexts. These studies should have as a focus the range of assessment and plasticity of the young child. In decision making about available assessment devices, attention should be paid to at least the following:

1) Neonatal behavioral assessment scale, Brazelton, 1973.
2) Observing intelligence in young children: eight case studies, Carew et al., 1976.
3) System for multicultural pluralistic assessment (SOMPA), Mercer, in press.
4) Coping techniques and ego resources, Murphy & Moriarty, 1976.
5) AAMD adaptive behavior scale, Nihira et al., 1975.
6) Temperament and behavior disorders in children, Thomas et al., 1968.
7) Ordinal scales of psychological development, Uzgiris & Hunt, 1975.

b. Characteristics of the environment - a few studies have already been initiated to study aspects of the environment. It would seem important to build on this base, as well as exploring new ways of studying aspects of the varying situated contexts. Possible contributing information can be found in:

1) Studies of aspects of environments, Schoggen & Schoggen, 1971.
2) Inventory of home stimulation, Caldwell et al., 1966.
3) Relation of infants home environments to mental test performance from 6 to 36 months: a longitudinal analysis, Elardo et al., 1974.
4) Developmental potential of preschool children, Haeussermann, 1958.
5) Conceptualizing the early environment, Yarrow, 1975.
6) Studies of the family systems, Pratt, 1976; Glasser & Glasser, 1970; Hoffman & Lippitt, 1960.

7) Coping techniques and ego resources, Ackerman & Behrens, 1974, Murphy & Moriarty, 1976.

8) Cross-cultural or subcultural studies, Mercer, 1976 (SOMPA), Koch & Dobson, 1971.

c. Dimensions of the exchange processes between the individual child and the particular environments to which the child is attached. A few aspects have been studied in relation to:

1) Mother-infant dyads, Bell, 1971; Ainsworth, 1969; Sander, 1962.

2) Caregiver-infant dyad (temporal studies), Haar, et al., 1964.

3) Relationship between abuse/neglect and characteristics of child and family, Kempe & Helfer, 1972.

4) Case studies of characteristics of particular family systems and particular children. From a socio-ecological perspective, there is a wealth of information to be found in such sources, Wilson, 1968; Clark, 1973; Massie & Massie, 1973; Killilea, 1952; Dvaraceus & Hayes, 1969.

SAMPLE: As with Mahler et al., (1975), research must be directed at young children identified as being "at risk" in specific contexts and/or as a result of certain compromising conditions as well as those children identified as falling within the "normal" range in relatively "normal" environments. The simultaneous study of both types of children will add clarity in terms of population diversity - a paradigm we feel necessary for understanding adaptive behavior and functioning.

METHODOLOGY: In this extremely critical type of work, there should be little attention to traditional experimental approaches. The suggested technique is the intensive design (Thoreson, 1972), which is an extremely complex case study approach. The N=1 (Dukes, 1965), must be utilized over a relatively large number of situated contexts and differing types of individuals.

Studies of Access and Transition

A fundamental component of the socio-ecological model of adaptive behavior and functioning is the aspect of negotiated transitions by means of appropriate accusing functions. From our perspective, there does not seem to be any readily available child oriented research which is specifically targeted at this particular and important facet, although Murphy and Moriarty mention some awareness of the problem (1975). Attention to the following is suggested:

LOCATIONS: Field studies - i.e., 1) the places that children move: from home to child care centers or neighbors' houses or grandma's, or within the home when the family brings in a baby-sitter, etc., and 2) the mechanisms by which they move:

in the family car, in a large school bus, in a special van for transporting "handicapped," by walking, by being pushed, by propelling self mechanically.

TO INVESTIGATE: The mechanisms to provide access, (people, agencies, peers, family, strangers, etc.) how the transitions are negotiated (with whom, at what times, best for whom? etc.). The range of functions between primary and adjunct systems should be studied, as well as the ability to adaptively function relative to transitions and accessing.

Demanding thoughtful and careful research is the idea of what comprises a balance of experiences for diverse presenting states that might promote, for each individual, effective adaptation. Elements involved in this are timing, duration, transition, mediators, optimum number ongoing, and context. Types of experiences, many currently believed to be negative, such as stress, anxiety, frustration, seem in fact, to be energizing, and evoke strength and development for particular presenting states yet are debilitating to others. Information concerning this could certainly enlighten decision-makers of the primary and adjunct systems.

Since there is (to our knowledge) little available research, perhaps a brief case study will illustrate the need.

> *Four year old Jeremy was in a "special developmentally disabled" classroom in his home town five afternoons a week. Following a successful but different summer program, he was enrolled in a "normal" cooperative nursery school program in the mornings 3 times a week and was scheduled to have individual psychological therapy the other two mornings. The distance between the morning and afternoon programs and his home town was 50 miles. Developmentally, Jeremy was functioning at an 18 month level. (Howe, 1976)*

Someone finally paid attention to the tremendous number of transitions this child had to make. Even with the support of a critical attachment relationship, this is probably too much to expect.

SAMPLE: "At risk" and "normal" (see above)

METHODOLOGY: Intensive designs (see above)

Interactional Studies

Since this type of research focuses initially only on interactive processes, and since there is both a theoretical and research base from which to begin, a somewhat different approach to research is suggested.

LOCATION: Clinical laboratories or controlled settings.

TO INVESTIGATE: Aspects of the negotiation of the particular developmental issues of attachment, communication, locomotion and active manipulation.

Work done by the following investigators and referenced earlier should be instrumental in formulating an experimental approach: Fraiberg, Sander, Bell, Snow, Salomon, Easton & Blau, Zimblich & Watson, Kroneck. A wide range of interests are reflected in the above perspectives from scholars. In addition, there are numerous references to studies of abuse/neglect "cases" and the non co-adapted interactions found.

SAMPLE: "At risk" and "normal" (see above)

METHODOLOGY: In this type of research, it might be appropriate to use a quasi-experimental approach (Campbell & Stanley, 1963) although other types of research may be equally appropriate.

Topographical Research

This type of research is perhaps the most "applied" type of research that we can recommend. In a sense, however, it is really descriptive research. We have the means and a few suggested mechanisms by which the components of this model could become more visible. In studying files, in analyzing case histories, there is seldom a way to visibly display critical information for assessment purposes. Our suggestion that a graphic display may focus attention on the systems involved may serve as a stimulus to more and better ways of presenting critical information.

LOCATION: Research facility, probably university based, with comprehensive access to a data base of significant and relevant information.

TO INVESTIGATE: Alternate developmental pathways through the production of a large number of individual developmental topographies. If the cases studied could be followed longitudinally, the predictive validity of developmental trajectories could be established.

SAMPLE: Either the stratified sample of "at risk" and "normal" or a random sample which would then (presumably) include all types of children.

METHODOLOGY: Descriptive and validity research to investigate the notion of developmental topographies.

Longitudinal Monitoring

Recognizing the constraints of funding agencies, there nevertheless exists a very real need for some larger organization and/or administration to compile the results of this recommended research, as well as other research ongoing. Bronfenbrenner's report "Is Early Intervention Effective?" (1974) can serve as a model of what could happen given interest, resources and scholarly, objective dedication. We support and recommend this wholeheartedly.

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PART V

ANNOTATED BIBLIOGRAPHY OF ADAPTIVE BEHAVIOR AND FUNCTIONING FROM A SOCIO-ECOLOGICAL PERSPECTIVE

NANCY A. CARLSON, EDITOR

ANNOTATED BIBLIOGRAPHY OF ADAPTIVE BEHAVIOR AND FUNCTIONING FROM A SOCIO-ECOLOGICAL PERSPECTIVE

Edited by Nancy A. Carlson

The scope of an annotated bibliography can never by fully comprehensive. Nevertheless, an attempt has been made to develop and present a brief but descriptive reference to significant works which are related to and which are critical to more fully understanding the Socio-Ecological Model of Adaptive Behavior and Functioning. The choices are representative, but are by no means exhaustive. Since each work represents a small but significant piece of a whole interconnected model, no attempt to subcategorize or divide on an arbitrary basis has been made. Instead, the references are arranged alphabetically.

To allow for the scope, several other sources were drawn upon. Three other significant annotated bibliographies were selectively used, and recognition of that contribution is gratefully given. Aside from project staff, two Institute for Family and Child Study staff members contributed selectively. Each abstract is initialed and can be attributed to one or more of the following:

AdBB	Adaptive Behavior Bibliography[1]	JB	Jon Bastian
ABP	Affective Behavior Project[2]	JS	Judi Simon
AM	Alan Must	NAC	Nancy A. Carlson
CDL	Cynthia D. Lafkas	PVAM	Prairie View A & M University[3]
DK	Don Kingery	SS	Susan Seidman
EV	Elaine Villiard	TZC	Thomas Z. Cassel
JL	JoAnn LaVallee		

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[1] Adaptive Behavior Project Annual Report: 1974-1975. Annotated Bibliography on Adaptive Behavior. Available from American Association on Mental Deficiency.

[2] Affective Behavior in Pre-School Children, Final Report. Utah State University Affiliated Exceptional Child Center, Glendon Casto et al. HEW, BEH grant no. 300-75-0254.

[3] Prairie View A & M University, College of Home Economics, Disability: An Annotated Bibliography. Elizabeth N. Noel and Flossie M. Byrd, Departmental Technical Report No. 74-1.

Adams, J. Adaptive behavior and measured intelligence in the classification of mental retardation. American Journal of Mental Deficiency, 1973, 78, 77-81.

The American Association of Mental Deficiency has defined mental retardation in terms of both "adaptive behavior" and "measured intelligence". Adaptive behavior, when determined by the Vineland Social Maturity Scale, is seen by many clinicians to be very limited in practical value. This study investigates types of information used to define mental retardation. The results indicate that psychologists and physicians rely almost entirely on the I.Q. score when the psychological reports were available.

The author contends that in the classification of mental retardation, adaptive behavior should be cast in a more central role. He feels that many other factors, besides I.Q. and current interpretations of adaptive behavior, are operative and should be identified and systematically included in the classification of mental retardation. The author believes many of these factors are societal-environmental in nature (family, educational, community, etc.). These variables, like adaptive behavior, are very difficult to weigh and measure accurately; thus arriving at appropriate decision in the classification of the retarded is difficult.

Meanwhile, since clinicians continue to use I.Q. tests as primary determinants of major decisions in children's lives, the author stresses the importance of correcting this gross injustice by immediate, intensive, and systematic study and/or action. (AM)

Ainsworth, M.D. Object relations, dependency, and attachment: a theoretical review of the infant-mother relationship. Child Development, 1969, 40, 969-1025.

An extensive review of the psychoanalytic, social learning, and ethological theories of attachment. The meanings of key concepts are analyzed and contrasted, the relations between concepts and empirical criteria are discussed, and a particular ethological feedback theory is suggested as the most comprehensive. (TZC)

Ainsworth, M.D., & Bell, S.M. Attachment, exploration and separation: illustrated by the behavior of one-year olds in a strange situation. Child Development, 1970, 41, 49-68.

In order to explore attachment and exploration behaviors in conjunction with mother-present and mother-absent conditions, infants were placed in a strange situation and their behavior observed. Infants in strange situations with mother present showed better alarm and used her as a secure base from which to explore the situation. Absence of the mother resulted in a heightening of attachment behavior and a concomitant lessening of exploration. Findings discussed in terms of other research. Attachment discussed as an ethological and evolutionary concept. (ABP)

Alexander Graham Bell Association for the deaf. *Proceedings of international conference on oral education for the deaf*, *2*, Washington, D.C.: The Volta Bureau, 1967.

Papers from five plenary sessions and a number of sectional meetings consider oral education of the deaf. Elementary and secondary deaf education programs are discussed with reference to teaching the multiply handicapped. Included also are: curriculum development; programmed instruction; teaching methods and materials; the subject areas of mathematics, science, social studies, reading, music and literature; the integration of deaf children into regular schools, and national program planning. Language achievement, motivation, development, and pathology are included, along with lip reading and linguistics, teaching methods, and current research. Early childhood education of the hearing impaired is considered in terms of the benefits derived by parents and infants; attitudes and feelings of the deaf and current needs in deaf education are discussed; information is provided on parent wants and their current needs. Research activities in the children's bureau and vocational rehabilitation administration are covered, as well as current educational trends in Japan and the United States. (JL)

Bakan, D. Slaughter of the innocents. *Journal of Clinical Child Psychology*, 1973, *2*.

Excerpts from the author's book, *Slaughter of the Innocents* (1971) have been presented in this article. The author first discusses the veil of silence that has been placed over the topic of child abuse and how it has been recently lifted. The ruling by H.A. Felix of the Family Court of New York (1965) that admits circumstantial evidence (the condition of the child) to stand in court is discussed. A solution to the child abuse problem is offered by facilitating a working democracy in which the basic human rights are guaranteed for all, including children. Bakan supports the Universal Declaration of Human Rights as declared by the UN General Assembly in 1949 to include children in fact and in application. (EV)

Bales, R.F. *Interaction process analysis*. Cambridge: Addison-Wesley, 1951.

A method for direct observation of social interactions in small face-to-face groups is presented with its theoretical framework as well as training manual. Aspects of problem-solving process and twelve interaction categories are proposed that seem to apply to an analysis of family interactions, particularly when the family is presented with a new child who may not meet their expectations. (CDL)

Baltaxe, C. & Simmons, J. Language in childhood psychosis: a review. Journal of Speech and Hearing Disorders, 1975, 40, 439-458.

Psychosis in childhood is characterized by numerous behavioral abnormalties in the areas of language impairment, and in social, intellectual and interpersonal functions (August and Ables, 1971, Eisenberg, 1968). The delay or absence of language are frequently contributing factors to the presumed retardation often found in psychotic children. Six broad categories of psychosis in children are listed. This article reviews the research literature on general characteristics of language in childhood psychosis, importance of language in diagnosis and prognosis, language development, echolalia and linguistic competence, delayed or deviant development, language interaction in the mother-child relationship, language training in childhood psychosis. The review concludes with hypotheses and directions for future research (JB)

Baroff, G. Mental retardation: nature, cause and management. Washington, D.C.: Hemisphere publishing corporation, 1974.

According to the author, adaptive behavior, which is included in the American Association of Mental Deficiency definition of mental retardation, is defined as, "the degree to which an individual meets the standards of personal independence and social responsibility expected of his age and cultural group." Therefore, measurement of adaptive behavior will vary at different ages in different environmental settings.

For the preschool child, adaptive behavior is considered to be reflected in acquisition of motor skills, language, cognitive skills, self-help skills and socialization. The author feels that cognitive deficiencies, reflected by learning difficulties, are the most direct consequences of an impairment of general intelligence. He sees a strong need for social skills, often overlooked in retarded children, to be encouraged. Preschool experience is seen as providing these social experiences.

The author contends that parental reaction to a retarded child strongly influences the child's self-esteem. Some of the reactions that detract from a child's sense of worth are: parental shock, grief, shame and tendency to isolate. The nature of mental retardation is such that it may cause many coping problems for the family. The author views the ideal role of the parent as being warm and loving while conveying a sense of worth to the child, who in turn learns to trust and approach new people and experiences. The author points out that impaired intelligence can lead to behavior patterns which differ from what is expected of the "average" individual of that age. (AM)

Barsch, Ray H. The parent of the handicapped child - the study of child-rearing practices. Springfield, Illinois: Charles C. Thomas, 1968.

The author discusses the impact on parents upon realization that their child is handicapped. Some parents greet the problem with disbelief; some realize the handicap before the child is born or immediately after birth; and some have to wait and wonder for years. Some parents feel personally responsible for their child's defect while other seem to blame an accident over which *they had no control. Some parents accept the situation, some learn to accept it, others never accept it. The course for the parent of the handicapped seems to be: 1) to accept the shock of having a child who is different from other children and yet the same; 2) to set in motion through child-rearing practices those actions and activities which will build a foundation of physical, social, emotional, and intellectual achievements and which will serve as a base for future services of therapists and teachers; and finally 3) to develop "conformity behaviors" at progressive levels of complexity. (PVAM)*

Bartel, N.R. & Guskin, S.L. A handicap as a social phenomenon. Research and development center in special education, Indiana University, undated.

The authors discuss the supposition that "handicaps" are a social phenomena, distinguished more by reactions of others than by the characteristics of the condition itself. The "handicap" results when a particular presenting state is seen as distinctive and undesirable by others and eventually by the person himself.

Social categorization of the "handicapped", as discussed by the authors, is seen as problematic because 1) there may be no valid information and 2) it may lead to particular behaviors as a result of fulfilling expectations or playing roles that society has laid on.

The authors also discuss familial reactions and attitudes toward the handicapped child, elaborating on differences in SES and ethnic background. Treatment facilities are examined along with rehabilitative suggestions for institutions. The authors see institutional segregation of the handicapped as pernicious since it further isolates them from societal norms making subsequent adjustment to society much more difficult. The authors indicate an urgency to drastically change the orientation of present institutions. (AM/NAC)

Barton, Sue Promoting, respecting, and positively coping with diversity. Teaching Exceptional Children, 1976, 8.

The staff of the Model Infant-Family Project at California State established a systematic problem-solving method that allows for children's independence, creativity, cognitive growth, and communication. The method also helps teachers develop skills in successfully and artfully incorporating more diverse social and learning behaviors.

In order to pinpoint the source of the problem (the dissonance) the teacher is freed of regular responsibilities and observes the child in as many school environments as possible. Following observation, the change process begins with alterations in the environment, the materials, or the specific situation: not with changing the child. The specific intervention components, after pinpointing a behavior in its environmental context, are: 1) activities, 2) schedule, 3) physical environment, 4) reinforcement patterns, 5) staffing patterns, 6) configuration of children, 7) expectations, and 8) negative interactions between child and teacher. Guidelines to follow after a decision is made to intervene are provided.

The process detailed by the author would seem to effectively allow for the avoidance, prevention, and elimination of problem situations without directly attempting to stop or change a child's behavior. (CDL)

Bearison, D.J. & Cassel, T.Z. Cognitive decentration and social codes: communicative effectiveness in young children from differing family contexts. Developmental Psychology, 1975, 11, 29-36.

A theory is presented arguing that the informational complexity of the family context, irrespective of social class, is the grounds for and predictive of the child's cognitive complexity. A seemingly homogeneous sample of white six year old middle class children was partitioned on the basis of the complexity of their mothers' verbal social control responses. Children of the linguistically more complex mothers displayed greater cognitive complexity. (TZC)

Bell, R.Q. A reinterpretation of the direction of effects in studies of socialization. Psychological Review, 1968, 75, 81-95.

A landmark paper which, based on an analysis of both human and animal studies, argues that theories of unidirectional effects from parents to offspring are inadequate. A theory of bidirectional effects is advanced. It is suggested that congenital characteristics of the child affect parental behavior, and in turn feed back upon the child. (TZC)

Bell, R.Q. Stimulus control of parent or caretaker behavior by offspring. Developmental Psychology, 1971, 4, 63-72.

A review of the traditional socialization perspective in which the child is viewed solely as an object of the caretakers shaping input. The necessity for a bidirectional perspective is advanced, based upon an analysis of the stimulus effects of the child's behavior in home based observations of parent-child interactions. (TZC)

Bell, S.M., & Ainsworth, M.D. Infant crying and maternal responsiveness. In F. Rebelsky and L. Dorman (Eds.), Child development and behavior (2nd ed.). New York: Alfred A. Knopf, 1973, 129-145.

This naturalistic, longitudinal study of 26 infant-mother pairs shows that consistency and promptness of maternal response is associated with decline in frequency and duration of infant crying. By the end of the first year, individual differences in crying reflect the history of maternal responsiveness rather than constitutional differences in infant irritability. Close physical contact is the most frequent maternal intervention and the most effective in terminating crying. Nevertheless, maternal effectiveness in terminating crying was found to be less powerful than promptness of response in reducing crying in subsequent months. Evidence suggests that whereas crying is expressive at first, it can later be a mode of communication directed specifically toward the mother. The development of noncrying modes of communication, as well as a decline in crying, is associated with maternal responsiveness to infant signals. The findings are discussed in an evoluationary context, with reference to the popular belief that to respond to his cries "spoils" a baby. (TZC)

Bergman, P. & Escalona, S. Unusual sensitivities in very young children. The Psychoanalytic Study of the Child, 3-4, 1949.

Observations of children who tended toward unusual sensitivities in (1) sensory modality, (2) intensity or quantity of stimulation response, and (3) quality of stimulation response, are reported. The authors attempt to understand the reactions observed in terms of Freud's concept of the "protective barrier against stimuli". An infant insufficiently protected against stimuli may develop some inappropriate coping mechanisms to protect himself. Those mechanisms may make it difficult for him to develop through other stages (or negotiate other issues of development within his environment). (CDL)

Bernstein, B. Class, codes, and control, I: theoretical studies towards a sociology of language. London: Routledge and Kegan Paul, 1971.

The collected research and theoretical papers of Bernstein. His theory of the language mediated social class and familial control of children's educability and adaptive functioning is explicated. Based upon research presented, the structure and control functions of schools and other institutions are analyzed. (TZC)

Bowlby, J. Attachment and loss: vol. I attachment. New York: Basic Books, 1969.

Bowlby's aim is to present a theory that adequately explains the processes of attachment from an ethological control theory perspective. Bowlby presents extensive discussions from both the animal and human experimental literature upon which he then bases his own perspective. In postulating a control theory of attachment behavior, Bowlby suggests "that the child's tie to his mother is a product of the activity of a number of behavioral systems that have proximity to mother as a predictable outcome". Bowlby contrasts his perspective with both the psychoanalytic and learning theory approaches, and argues for the necessity of a theory firmly based on evolutionary data and principles. (TZC)

Bowlby, J. Attachment and loss: vol. II separation. New York: Basic Books, 1973.

The second volume of Bowlby's treatise deals mainly with problems of separation anxiety. Bowlby first discusses the various forms of behavior taken to be indicative of fear and the nature of the situations that commonly elicit fear. He then considers the great differences in susceptibility to fear and anxiety that are found when one individual is compared with another. As in Volume I, Bowlby draws heavily from studies in ethology and provides an extensive discussion of fear and separation as they relate to attachment from a control theory perspective. (TZC/NAC)

Brazelton, T.B. Assessment of the infant at risk. Clinical Obstetrics and Gynecology, 1973, 16, 361-375.

This article calls to light the importance of evaluating "at-risk" infants as early as possible so sophisticated preventive and therapeutic approaches can be administered. These areas of assessment are discussed: 1) apgar scores, 2) effect of intrauterine experiences, 3) assessment of immaturity and dysmaturity, 4) placenta and cord blood, 5) neurological evaluations, 6) recovery period-behavioral exams, along with significant research discussing what these diagnostic instruments are assessing.

A behavioral evaluation scale was developed by the author. This scale tests for neurological adequacy by 20 reflexive measures and by 26 behavioral responses to environmental stimuli, including interpersonal stimuli mothers use in handling their children. When the test was used on successive days immediately after birth, the author states it enabled the outline to be drawn of the infants: 1) initial period of alertness immediately after delivery, 2) the period of depression and recovery to optimal function, 3) the curve of recovery to optimal function. According to the author, this behavioral exam measures the intactness of the central nervous system, the neonate's ability to integrate the central nervous system with other physiological recovery mechanisms, and the strength of compensatory capacities. The curve of recovery or non-recovery established by successive testing may be a predictor of future central nervous system functioning or dysfunctioning. Observations of the infant-mother interaction assist in determining whether the environment may help or hinder the development of an infant "at risk." (JB)

Brazelton, T.B. Neonatal behavioral assessment scale. Clinics in developmental medicine. Lavenham, Suffox, England: The Lavenham Press, Ltd., 1973.

This manual is a guide to the use of the Neonatal Behavioral Assessment Scale, a psychological scale for newborn infants. It measures skills the author considers to be relevant to the development of social relationships, usually administered around the age of three days. A few characteristics make this scale particularly interesting and relevant: 1) the infant's score is based on the best (not an average) performance. The examination attempts to determine what the infant is capable of doing: it is the examiners responsibility to make every effort to elicit a response on the part of the infant. Brazelton emphasizes the importance of examiner sensitivity to the infant. 2) One of the most important factors is the state of consciousness, or "state" of the infant throughout the examination. The importance is summarized in the following passage: "Reactions to stimuli must be interpreted within the context of the presenting state of consciousness, as reactions may vary markedly as the infant passes from one state to another. State depends on physiological variables such as hunger, nutrition, degree of hydration, and time within the wake-sleep cycle of the infant. The pattern of states as well as the movement from one state to another appear to be important characteristics of infants in the neonatal period, and this kind of evaluation may be the best predictor of the infants receptivity and ability to respond to stimuli in a cognitive sense." Six possible states are described--two sleep states, and four awake states. 3) The *author contends that there is no such thing as "optimal neonatal behavior," since optimal behavior for each baby may be represented by an entirely different cluster of scores. Some of the items scored on the scale (in addition to "state" characteristics) include: response decrements to: light, rattle, bell, and pin prick, orientation responses, alertness, motor maturity, cuddliness, defense movements, consolability, peak excitement, rapidity of buildup, irritability, activity, self-quieting activity, smiles, reflex actions (elicited). (JS)*

Broech, E.T. The extended family center. Children Today, March-April, 1974, 2-6.

Recognition of the battered child is the first step in long-term separation of parent and child in 10% of abuse cases, according to professionals. The other 90% can be helped through understanding and redirection of the anger that is at the base of the abuse. Help in improving overall care is also important. The purpose of the Extended Family Project (developed through the Office of Child Development in 1973) is to develop the resources of an extended family for isolated parents who do violence to their children. It includes day care to relieve parents, treatment of the children at the day care center, providing support and understanding to the parents and helping the parents to gradually help one another. (EV)

Brody, S. & Axelrad, S. Anxiety and ego-formation in infancy. New York: International Universities Press, 1970.

Based upon extensive analysis of films of mother-infant interactions, a psychoanalytic theory of normal and abnormal infant development is advanced. There is an extensive discussion of the issue of infant assessment, and valuable case material is presented. (TZC)

Bronfenbrenner, U. Is early intervention effective? A report on longitudinal evaluations of preschool programs, 2, Washington D.C.: Office of Child Development, 1974.

In a thorough review, Bronfenbrenner analyzes the data from the major research studies done on the short and long term effects of intervention programs.

Selectivity in initial selection of the twelve studies to be included indicate a commitment to external analysis and not just to reporting results. Included in the analysis are generalized comments relating to: methodological problems, effects of preschool intervention in group settings, intervention in home-based programs, parent involvement, sequential strategies and the ecology of early intervention.

Conclusions based on these and other findings which the author includes point out that it is possible to obtain measurable, long lasting cognitive changes in disadvantaged children if the following are taken into account:

intervention to provide enduring patterns of reciprocal contingent interaction with persons with whom the child has established a mutual and enduring emotional attachment. To the degree that there is not profound deprivation in the home, there may be an effective parent-child system facilitated; with severe and total deprivation, a more ecologically sound, but geographically removed environment may have to be substituted.

Preschool programs in group settings are more likely to achieve positive long lasting cognitive changes if they are in combination with: 1) an early (around 12 months) program of home-based instruction by parent with a tutor as facilitator and 2) some substantial follow up during school years which also recognizes the parent as a facilitator of learning.

School-based programs in isolation from the primary system are incapable of sustaining cognitive changes, although initial gains in some cases were substantial.

Bronfenbrenner points out the necessity for major institutional changes, preceded by some methodological thinking. While the author was primarily addressing measurable cognitive changes in disadvantaged, there are obvious and significant implications for adaptive functioning of very young children who have other labeled handicaps. (NAC)

Brown, R. A first language, the early stages. Cambridge: Hard University Press, 1973.

The most extensive research review of the early stages of language acquisition. Using primarily a cognitivist perspective, each stage is exhaustively detailed. An overall perspective is presented relating early language acquisition to Piagetian theory. (TZC)

Bruner, J.S. Towards a theory of instruction. New York: W.W. Norton and Company, 1966.

A series of essays detailing Bruner's developmental perspective, his views on education, and difficulties and disabilities in learning. A particularly felicitous presentation of his ideas, and of special import for issues of assessment and mediation. (TZC)

Bruner, J.S. The nature and uses of immaturity. American Psychologist, 1972, 27, 1-22.

In a wide-ranging article, the characteristics of human infancy in the context of the human way of life are explored. From an evolutionary perspective, man's primate characteristics are discussed, as well as the evolution of our cooperative way of life. Exploration, play, language development and the mother-infant attachment are woven into the fabric of the argument. (TZC)

Bryan, S.T. An observational analysis of classroom behaviors of children with learning disabilities. Journal of Learning Disabilities, 1974, 7, 26-34.

This study is a replication of the findings of Bryan and Wheeler 1972, and an attempt to expand upon the findings: the systematic analysis of classroom behaviors of children with learning disabilities. Goals were to find out: 1) how the behaviors of learning disabled children differed from their peers. 2) if task orientated behaviors of learning disabled children would vary from task to task. 3) how behaviors of learning disabled children compared in two settings: in the classrooms, and with a learning disability specialist. (Results from the first study showed teachers spent little time with these children and administered virtually no positive or negative reinforcers.)

Results showed: 1) learning disabled children spent significantly less time in task-orientated behaviors and more time in non-task orientated behaviors. 2) Learning disabled children did not differ in the total proportions of time spent interacting with teachers or with peers. Patterns of interactions differed, teachers were more likely to respond to verbal initiations (three times as much) by other children. Also, half the time spent with the learning disabled child was helping him with his work, other children 1/4 of the time. Teachers gave learning disabled children more negative reinforcers than the comparison group. The learning disabled child was more likely to be ignored by peers than the comparison groups. 3) In the special education setting: a) learning disabled children spent significantly more time in task orientated behaviors, b) learning disabled children spent more time in attending behaviors, reading and language, and attending to the teacher, c) teachers administered more positive reinforcers. 4) No differences in learning disabled child--peer interactions in the two settings. (JB)

Bugental, D.E., Kaswan, J.W., Love, L.R., & Fox, M. Child versus adult perception of evaluative messages in verbal. vocal and visual channels. Developmental Psychology, 1970, 2, 367-375.

In this experiment, the authors focus on the developmental trends in perception of evaluative messages delivered in the verbal, vocal, or visual channels. Video-taped messages in the verbal channel (context), vocal channel, (voice tone) and visual channel (facial expression) were either positive, negative or neutral. The subjects were middle class children (N=120) aged 5-18, and their parents (N=80) who were compared on their ratings of the evaluative content of the message. Only the visual channel showed an age trend, but this had a lessened impact on young children. For the young children, reduced visual effects were marked only for positive visual inputs from female encoders. Discussion on the integration of multi-channel messages and the differential effects of male and female encoders is included.

In dealing with "at-risk" young children, certain compromising conditions might effect a particular perceptual channel. A blind child could not receive visual input through the visual channel, a deaf child would have limited receptivity through the verbal channel; making the child dependent on other perceptual channels for evaluation of messages. Impact of this situation on parent-child communication must be considered as to what effect it would have on congruent communication. "If young children respond to different portions of the message than adults (e.g. vocal expression rather than verbal content), children and adults would obtain discrepant meaning from noncongruent messages, in which approval or disapproval is contained in only one channel" (p. 368). The important factor is the synchrony of messages transmitted and received by both the parent and the child. At "at-risk" child, disabled in perceiving messages through one perceptual channel, is still capable of evaluative judgments. Studies on the integration of information from the different perceptual channels are now being done. It is thought that studies on disabled children could provide information on how successful, adaptive communication can occur without perception through a particular channel. (SS)

Caldwell, B., Heider, J., & Kaplan, B. The inventory of home stimulation. Paper presented at the meeting of the American Psychological Association, September, 1966.

The Inventory measures particular aspects of the home environment which, according to research studies (Elardo et al., 1974), seem to have an important relationship to cognitive development during the first 3 years of life. The Inventory consists of 45 items requiring observation or a semi-structured interview representing 6 subscales: emotional and verbal responsivity of mother, avoidance of restriction and punishment, organization of the physical and temporal environment, provision of appropriate play materials, maternal involvement with child, and opportunities for variety in daily stimulation. Although little research has been done to date with this instrument, it seems relevant for use as a descriptor of primary system interactions and variables. (CDL)

Carew, J.F., Itty, C. & Halfar, C. Observing intelligence in young children: eight case studies. Englewood Cliffs, New Jersey: Prentice Hall, 1976.

Described in concrete detail are the typical experiences of eight young children in their natural home environments, illustrating the complex relationship that exists between intellectual development of the child, and the social and cultural context in which he lives. Behavior is described as an aspect of the child's human and physical environment, each of which play a number of direct and indirect roles in his/her development. Particular attention is paid to the influence of the mother on the child, as well as the reciprocal relationship between the child and the environment. Though the observations are analyzed in terms of intellectual development, the authors point out that they could also be interpreted in terms of other types of development.

Of particular interest is the analysis and explanation of a variety of explorative experiences and generalizations drawn from them concerning the concepts with which the children are experimenting. The authors also analyze the roles the mother plays and the degree to which these roles are integrated.

The balance of the book is the observations and observational commentaries on a wide variety of children stressing differences in styles, values, skills and extremes in environment and child pathology.

This book is relevant to the socio-ecological approach in that it examines the young child in his natural environment and makes some interesting and valuable statements on the ecological system which most directly effects the young child zero to five. (CDL)

Carter, S. & Gold, A.P. The nervous system: diagnosis of neurologic disease. In S. Sapir & A. Nitzburg (Eds.), Children with learning problems. New York: Brunner/Mazel, 1973, 569-586.

The authors present the normal age of developmental milestones in the motor, language, and adaptive behavior realms, pointing out that individual variations are to be expected. Consequently, milestones used are age approximations, not to be viewed as absolute. They assert that delay in one area may be normal, but that multiple delays usually signify an under-lying nervous system disorder. For example, an extreme delay in motor function may mean a muscle disorder or cerebral dysfunction, or if speech fails the causative factor may be a hearing loss or brain disorder. Poor adaptive behavior may imply a disturbance of the brain or may be related to maternal deprivation or rejection. It seems important to investigate all possibilities for deficiencies in adaptive behavior to avoid oversimplification and gross generalizations. (AM)

Chassier, S.M. My daughter Laure. In W.C. Dvaraceus and E.N. Hayes, If your child is handicapped. Boston: Porter Sargent, 1969, 254-262.

The chapter discusses the reaction of the parents of a child born with a handicap. Diversity was seen in the parents reaction to the child. The mother did not fully accept the child's handicap and the father wanted the child institutionalized. The husband remained very attentive to the wife, but ignored the child. The mother felt a sense of personal failure, guilt, grief and sorrow. The father was disappointed, frustrated, and bitter and thus caused the mother to also be defensive. The mother is more attentive to the non-disabled children and the healthy children depend upon each other for comfort and companionship. A personal story which illustrates the complexities of exchange processes within and between members of the primary system. (PVAM)

Chess, S., Thomas, A., & Birch, H. Characteristics of the individual child's behavioral responses to the environment. American Journal of Orthopsychiatry, 1959, 29.

Parents and teachers have been flooded with advice on optimal approaches that assume each child will react in the same way to any specific approach by the parent. Implication is that, rather than try to find a "universally applicable generalization", perhaps we need to use more of the alternatives available for any child at any one point in time and change when responses so indicate a necessary change.

The data gathered on children in the first few months of life are objective, and behaviors are assumed to indicate responses to stimuli from external or internal environments.

The categories of behavioral responses are: 1) activity-passivity, 2) regular-irregular, 3) intense-mild, 4) approach-withdrawal, 5) adaptive-nonadaptive (ease with which initial responses to new or altered situations are modified in desired directions), 6) high-low threshold, 7) positive-negative mood, 8) selectivity-nonselectivity, and 9) distractability.

The response of the child to the parental approach in various areas and at different ages is determined not only by attitude and behavior of the parent, but also by the child's own specific reaction pattern. Some "babies show reaction patterns which do not permit favorable responses to differing parental approaches. Thus individualized approaches become important and to be effective must be based on knowledge of that particular child's reaction pattern." (CDL)

Clancy, H. & McBride, G. The autistic process and its treatment. Journal of Child Psychology and Psychiatry and Allied Disciplines, 1964, 10, 233-244.

A theoretical model of autism based on observations of 53 autistic children is presented in this article. Autism is seen as a developmental process operating within a social system, the family. Observations by the authors indicate that the autistic child can form affiliations, suggesting that the initial deficit operates to interfere with the process by which bonds are formed. The autistic child and family are viewed as mutually involved in the abnormal affiliative process with the child being incorporated into the family system in a way which reinforces and maintains the autistic process. Once the autistic process is established it isolates the child on his own terms.

In this approach, the family is the unit of treatment rather than just the child. This procedure aims at developing a system of family bonds so that normal socialization can take place. Results reveal that 12 of the 53 subjects were successfully treated. Other theories of causation and treatment of infantile autism are discussed in relation to the author's theory and treatment. (JB)

Clarke, A.M. & Clarke, A.B. Mental deficiency: the changing outlook. New York: The Free Press, 1965.

Clarke and Clarke have edited an extensive work on mental disabilities that details background, theoretical, and practical problems in the field. Essays on the topics of measurement of intelligence, etiology of mental disabilities, individual differences, educational problems, psychological assessment, and learning of the mentally disabled are but a few included in this work. Research and thoughts on mental disabilities are put into a social context, the introduction to which states that "from considering merely the handicap, we have come to think about the needs of the 'whole child' in his family, and the place of the handicapped person in society" (p. 5). (SS)

Cole, P.G. Parent's and teacher's estimates of adaptive behavior. Paper presented at the meeting of the American Association on Mental Deficiency, Toronto, June, 1974.

Non-institutionalized normal and handicapped children were rated with Part I of the Adaptive Behavior Scale, the Vineland Social Maturity Scale (VSMS), and Gunzburg's Primary Assessment Chart (PAC) to determine if: 1) differences exist between parent and teacher ratings of personal independence of handicapped children and 2) the personal independence dimension displayed a differential pattern between non-institutionalized normal and handicapped children. Results indicated that: 1) parents generally tend to overestimate their child's social competency while teachers underestimate it, 2) for both univariate and multivariate analyses the hypothesis of non-significant interaction between groups and respondents was accepted and 3) some differential patterns between groups did exist. (AdBB)

Condon, W.S. & Sander, L.W. Neonate movement is synchronized with adult speech: interactional participation and language acquisition. Science, 1974, 183, 99-101.

Based upon a film frame by frame analysis of day old newborns, it is demonstrated that newborns move in precise synchrony with the articulated structure of adult speech to which they are exposed. A view of human interaction and connectedness is presented, based upon the concept that an infant participates from the outset in multiple forms of interactional organization. A new theory of language acquisition is offered in which it is suggested that the structure of the speech environment is rhythmically incorporated second-by-second from birth. (TZC)

Connor, F. & Cohen, M. (Eds.) Leadership preparation for educators of crippled and other health impaired--multiply handicapped populations. New York: Teachers College, Columbia University, 1973.

This report is a collection of task force papers on issues related to preparation for work with crippled and other health--multiply handicapped individuals. It includes information on teacher education, community involvement, and views on continuing education of multi-handicapped individuals. All these issues are related to a legal and social context. The appendix presents a pilot project that presents goals and corresponding competencies which the authors believe should be the basis of education for the multiply-handicapped individual. (SS)

Crawford, C.A. Comparisons of parent's and teacher's perceptions of adaptive behavior and psycholinguistic functioning with young school age children of low socioeconomic status. Unpublished masters thesis, Ohio State University, 1974.

Parent's and teacher's perceptions of adaptive behavior significantly differed on 23 of the 37 subdomains of the Adaptive Behavior Scale. Both parent's and teachers' perceptions of adaptive behavior significantly correlated with psycholinguistic functioning as measured by the Illinois Test of Psycholinguistic Abilities (ITPA). The Adaptive Behavior Scale domains significantly related to psycholinguistic functioning were: independent functioning, language, number and time. The differences in adaptive behavior perceptions were postulated as being due to different frames of reference. The teachers attend more to comparatively deficient or disruptive behaviors. Parents on the other hand may tend *to overrate both Part I and II behaviors because of greater familiarity with the child and a narrower frame of reference respectively. (AdBB)*

Cruickshank, W.M. The relation of physical disability to fear and guilt feelings. Child Development, 1951, 22, 291-298.

Fear and anxiety serve as a motivating but inhibiting factor to healthy social, emotional, and academic adjustment and achievement. Cruickshank demonstrates that children with various types of orthopedic, cardiac, and neurological handicaps see themselves as having more fears and more feelings of guilt than do children who appear to have "normal" physical characteristics. The degree to which there are anxieties on the part of the handicapped child, and the degree to which the handicap is a factor in the process of reaching goals and satisfying wishes is unknown. (PVAM)

Daniel, J.H. & Hyde, J.N. Working with high-risk families. Children Today, 1975, 4, 23-25.

Non-traditional modes of intervention using a "Family Advocacy" and "Parent Education Program" are explored. The focus of both programs is to provide information which can be used by the families to deal with individual problems or crises. Family strengths are built upon so that parents can learn decision-making and gradually become independent from the mediator. Prevention of abuse and neglect is the ultimate aim of these programs, and both the "Family Advocacy" and "Parent Education Program" are designed to enhance parent's self-concept and the conditions for the child's physical and emotional development. Both are models within which a facilitator is employed to directly enter the family system. These programs offer promise for looking at the child within a socio-ecological framework. (SS)

Davis, H.J. & Lange, T. Parent-child communication and the development of categorization styles in preschool children. Child Development, 1973, 44, 624-629.

This report is based on linguistic communication styles of 56 parents in interaction with their preschool children via storytelling and block sorting tasks. Relationships between parent styles and children's categorization style preference were examined. Parents conveyed proportionately more relational-contextual messages in both tasks, with descript messages increasing and categorical inferential messages decreasing from the story telling to the more structured block sorting task. Correlated analyses pointed to the mother-father unit, rather than either parent considered singly, as a socializing agent for the development of descriptive categorizing styles in young children. (DK) de Laguna, G.A. Speech: its function and development. Bloomington: Indiana University Press, 1963.

A classic and still highly provocative evolutionary perspective on the functions and development of speech. The relation of speech to action and to the formation of group cooperative activities is suggested and explicated. (TZC)

DeMyer, M.K., Churchill, D.W., Pontius, W. & Gilbey, K.W. A comparison of five diagnostic systems for childhood schizophrenia and infantile autism. Journal of Autism and Childhood Schizophrenia, 1971, 2, 1975-189.

Five diagnostic systems used to differentiate infantile autism and early childhood schizophrenia were administered to 44 young children at one clinical center. The subjects were all administered autistic scales devised by Rimland, Polan and Spencer, Lotter, British Working Party, and the DeMyer-Churchill categorical system. Each child was given an intellectual, neurological, and psychiatric diagnosis. Non-psychotic, brain-damaged and retarded children were used as controls. The scales were all able to distinguish psychotic from non-psychotic children at a significant level; an overlap of 35% was present, indicating that some children would receive different diagnoses on different scales. Similarities and differences are discussed; if refined evaluations are necessary, subgroups cannot be differentiated without significant loss in reliability. (JB)

Doley, D.M., Cartelli, L.M., & Doster, J. Comparisons of patterns of mother-child interactions. Journal of Learning Disabilities, 1976, 9, 42-46.

Three groups of preschool and kindergarten age children--(1) psychological clinic children, (2) "normal" nursery school children, and (3) learning disabled program children--and their mothers were observed during a 20 minute play session. Mother's attitudes and perception were measured by the Parent's Attitude Test (Crown, Huser, Beach, and Rappaport, 1970).

Results seem to indicate that mothers of learning disabled children give more rewards and ask more questions than either of the other groups of mothers, but neither behaviors were judged by the authors as necessarily positive or appropriate. Also noted was the implication that mothers of learning disabled children may be more tolerant or accepting of academic and non-academic behavior and see those behaviors as a function of their child's "disability". This tolerance results in low compliance behavior, yet also leads to mothers perceiving their learning disabled children better adjusted than do the mothers of clinic children, regardless of the similarities of overt behavior of these two groups of children. (CDL)

Dow, T.E. Family reaction to crisis. Journal of Marriage and the Family, 1965. 27, 363-365.

This study was designed to determine if a general theory of reaction to crisis could be formulated as a researchable hypothesis: emphasis was placed *on family reaction to physical disability. Open-ended questions administered to one parent of a physically handicapped child provided the foundation. Findings suggested that a structure founded on a contracted or limited network of interactions and obligations will be associated with an extreme or dysfunctional response, while one containing an extended network will prove functional in coping with the same crisis. The latter structure has the natural consequence of encouraging, the former of discouraging, or promoting excessive preoccupation with the illness. (PVAM)*

Durkheim, E. & Mauss, M. Primitive classification. Chicago: The University of Chicago Press, 1963.

With an excellent translation and introduction by Needham, the Durkheim-Mauss sociological theory of development is made available. The Corpernican transformation of the Kantian view of the organization of experience is detailed with reference to anthropological materials. This reference is critical for an understanding of the relation of social structure to individual cognition. (TZC)

Elardo, R., Bradley, R., & Caldwell, B. The relation of infants home environments to mental test performance from 6 to 36 months: a longitudinal analysis. Paper presented at Southeastern Regional Meeting of Society for Research in Child Development (SRCD), Chapel Hill, North Carolina, March, 1974.

Reported are the results of studies to determine the ability of the authors "Inventory of Home Stimulation" to predict later mental test performance. The results seem to indicate the Inventory measures "a complex of environmental forces which may be prerequisites to later performance on cognitive tasks and is measuring those forces at a time in infant's life prior to the period of development in which such environmental forces have affected the infant's measured development." The authors conclude that though the meaning of their findings is unclear it seems that different aspects of the home environment are more salient at certain times in development, or that perhaps certain home environmental factors interact with mental capabilities in a very complex way. (CDL)

Endler, N.S., Boulter, L.R. & Osser, H. (Eds.) Contemporary issues in developmental psychology. New York: Holt, Rinehart and Winston, 1968.

An excellent collection of reprinted articles on development through adolescence. Primarily research articles, the papers present the current most discussed topics and issues. Animal as well as human studies are presented. The animal section on the effects of early experience and the sections on language, cognition, and intelligence are particularly well selected. (TZC)

Escalona, S. Influence of topological and vector psychology upon current research in child development: an addendum. In L. Carmichael (Ed.), *Manual of child psychology*. New York: John Wiley, 971-983, 1954.

In this review of research related to Lewin's topological psychology ongoing in the early fifties, Escalona describes Redl et al.'s work with contagion behavior and a variety of infant studies by Bayley, Escalona, Fries, and Gesell in order to substantiate Lewin's proposition that behavior is more than a result of environmental experience and that personality development may be thought of as a function of both the person *and* the environment *through time*. She concludes that topologists have looked for groups of variables as they occur in life situations and have developed an interest in the process of mediation--the genesis and development through time of the psychological situation. (CDL)

Farber, B. Effects of a severely mentally retarded child on family integration. *Monograph of the society for research in child development*, *24*:2, 1959.

Various aspects of a compromising condition such as severe retardation as well as aspects of the family influence total family integration. The effects of age, sex, and dependence of the retarded child in combination with the presence of normal brothers and sisters and the social status and religion of the family determine the impact the presence of a retarded child has on a family. (PVAM)

Fish, B. Contributions of developmental research to a theory of schizophrenia. In J. Hellmuth (Ed.), *Exceptional Infant*, Vol. 2, Brunner/Mazel: New York, 1971.

This article summarizes material drawn from six separate studies involving 213 children, 89 of which were diagnosed as schizophrenic. According to the author, understanding the neurological features of such children in infancy will enhance understanding between the neurophysiological and the psychological studies. Within the group of schizophrenic children studied, there were deviations in development which either started early in infancy or as the children got older. Findings covered four areas: 1) disturbances of the timing and integration of neurological maturation in infancy, 2) disorders of arousal, vestibular, and autonomic functioning and somatic growth, 3) relationship between developmental disorder and clinical severity, and 4) relationship between neurological and psychological manifestations.

It is suggested that inadequate integration by the central nervous system disturbs the normal progression of development, resulting in sequences of retardation and acceleration during critical periods of development. Disturbances in the organization of alertness, activity, muscle tone, vestibular function, proprioception and autonomic stability are caused by an integrative disorder of the central nervous system. The author suggests that the fluctuating level of integration is part of a basic integrative disorder of central nervous system functioning, which is directly observable in the fluctuating states of attention and arousal. (JB)

Flaxman, G., Dr. & Mrs. Growing up with Marsha. In W.C. Kvaraceus and E.N. Hayes (Eds.), If your child is handicapped. Boston: Porter Sargent, 1969, 159-160.

It is important for parents to have and maintain outside interest with a handicapped child in the family, according to the Flaxmans. Parent time away gives the child a sense of independence and an opportunity to see the world through the eyes of someone other than the parents. It gives siblings the chance to help with the care of the child and to understand the handicap. Parental interest in groups which include the parents of other handicapped children help parents view their child's handicap in another perspective. (PVAM)

Forth Worth independent school district, Texas. Special education early childhood project in Fort Worth independent school district, title VI, ESEA, final report. Bureau of elementary and secondary education (DHEW/OE), Washington, D.C., 1971.

Described is the special education component of an early childhood education project for culturally disadvantaged preschool children. The component's purpose was to determine if children deviating from their peers could be educated as an integral part of their regular class. Children with an I.Q. under 80 were provided individual prescriptions in the regular classroom by a teacher assistant. Language development prescriptions were provided outside the classroom for children with gross motor problems, learning disabilities or immature speech. Instructional strategies and content in the areas of social and parent education are detailed. Evaluation showed that the special education students had post test mean scores only slightly below those of the other children and above those of day care and kindergarten comparison groups. Greatest gains were made by 3-year-olds. Most of the children entering the program with I.Q.s under 80 were able to enter regular first grade classes. It was concluded that individual and language development programs can accommodate children deviating from their peer group, and that this can be done with regular class placement. (JL)

Foster, G., Schmidt, ., & Sabatino, D. Teacher expectancies and the label learning disabilities. Journal of Learning Disabilities, 1976, 9, 111-114.

A report of a research study in which 2 groups of 22 elementary teachers were shown a videotape of a normal child engaged in various activities. The control group was told the child was normal, the experimental group was told that the same child was learning disabled. The experimental group rated the child more negatively. Thus it was possible to conclude that the label "learning disabled" generates negative expectations which affect observations of behavior. The implications of these findings are discussed. (NAC)

Foster, R. & Foster, C. The measurement of change in adaptive behavior. Project News of Parsons State Hospital and Training Center, 1967, 3, 21-29.

Forty-one subjects were chosen from a group that had received an Adaptive Behavior Scale (ABS) rating two years previously. Twenty-six of these subjects had been part of a demonstration program based on operant procedures to change various behaviors from inappropriate sexual behavior to learning to tell time. A group of fifteen controls were used. All subjects were re-rated with the ABS. Results indicate that the experimental subjects made a significant gain in their total Part I scores. Fifty percent of the experimental group changed AB levels (increase) while only 13% of the control group increased. Sub-group results of the experimental subjects displayed differential change. The change in adaptive behavior was highly significant for the younger group but not significant for the two older groups. For the younger group, increases were seen on language development, self direction, and occupation domestic. One of the other subgroups showed a significant increase on self direction only. The study lends support to the notion that programmatic increases in adaptive behavior as defined in this study can occur. (AdBB)

Fraiberg, S. Parallel and divergent patterns in blind and sighted infants. Psychoanalytic Study of the Child, 1968, 23, 264-300.

The author discusses adaptive functioning in terms of: 1) the intactness of the biological equipment and 2) the human environment. The infant's state of adaptive readiness is constituted by his/her biological equipment and constantly modified by the environment.

The article presents areas of development to be negotiated by the child-environmental interaction: human object relations, behavior toward inanimate objects, feeding, language, defense mechanisms, affection, gross motor development, self-stimulating behaviors, and defensive actions.

The author concludes that the visually impaired child, during early childhood, will show helplessness in the face of objective danger and will have a "vulnerable ego" for an extended period of time. This is not because blindness alone imperils the child, but because lack of vision as an organizer of experiences, facilitator of motor development, and constructor of stable mental representation tends to interfere with ego development. (AM)

Fraiberg, S. Legacies and prophecies. Commencement address at Smith College School for Social Work, Winter, 1974.

Fraiberg, speaking at the commencement exercises of Smith College, stated that a child deprived of human partners early in life or exposed to shifting or unstable partnerships in the formative years may have an impairment in his capacity to love, learn, judge and abide by laws of the community. To counteract this effect, Fraiberg proposes preventive work in child guidance and urges social workers to look at social policies that effect children and to examine social agencies and services. Also discussed was the "Penelope" effect, in which work done on the one hand is undone on the other - i.e. in acting on the behalf of a child, agencies may put the child through a succession of foster homes and institutions while awaiting court decisions regarding surrender and custody. Are these actions in the child's best interests? (EV)

Fraiberg, S., Adelson, E. & Shapiro, V. Ghosts in the nursery: a psychoanalytic approach to the problems of impaired infant-mother relationships. Journal of Child Psychiatry, 1975, 14.

The authors discuss several cases of child abuse as seen at the Infant Mental Health Program in which they were involved. They have seen that the abused baby becomes a silent partner in the family tragedy of the past, burdened by his parents' oppressive past. The child in essence is condemned to repeat the tragedy of his childhood with his own children so the end result is emotional starvation, grave symptoms and developmental impairment throughout a family line. Therapy in these instances consisted of listening to the mother, helping her to remember not only how she was treated as a child but how she felt about it. Acceptance of the mothers helped them to accept their children. (EV)

Freud, A. Normality and pathology in childhood: assessments of development. New York: International Universities Press, 1965.

The classic presentation of the ego psychological view on normal and abnormal childhood development. In a relaxed and felicitous style, case material is interwoven with theoretical discussions. Particular emphasis is given to the mechanisms of defense. A good discussion of clinical assessment is provided. (TZC)

Freud, S. Three essays on the theory of sexuality. New York: Avon Books, 1962.

Freud's classic and still provocatively rich discussion of his theoretical view on the interactive, sexually organized processes of early development and deviancy. Freud's emphasis on the importance of attachment, rhythmical stimulation, and the object relations - narcissism dialectic are of current concern and debate. (TZC)

Freeman, R. D. Emotional reactions of handicapped children. Reprinted from Rehabilitation Literature, 1967, 28, 270-281.

The author considers that a child's emotional development, behavior and reaction to his handicap may be more significant in determining his adaptation to the environment that the extent of the physical handicap itself. Early diagnosis with concomitant parental reactions may lead to: 1) a negative self-concept, 2) unhealthy family patterns including parental blame, 3) insecure, and/or dependent children, and 4) distorted sibling and peer relationships. (AM/NAC)

Friedlander, B.Z., Sterritt, G. M. & Kirk, G. (Eds.) Exceptional infant: assessment and intervention, 3. New York: Brunner/Mazel, 1975.

This volume focuses on three areas in child development: 1) the problems of the developmentally disabled child, 2) programs for disadvantaged children, and 3) issues and techniques in developmental assessment. Prominant researchers and academicians in the field have written articles on their specific areas of interest. Under the section on the developmentally disabled child, current projects and programs dealing with the blind, language impaired, and Down's Syndrome children are reported. The focus of the section on the disadvantaged child is on educational programs, and included are two articles on cultural-familial retardation. Section III is focused on assessment of development, in the psychological, cognitive and language areas. The last section is an overview of screening as it applies to young children developmentally "at risk". (SS)

Gallager, J. J. (Ed.) The application of child development research to exceptional children. Reston, Va.: The Council for Exceptional Children, 1975.

The first section of this book provides an overview of child development research in the areas of language acquisition, perception, concept formation, learning, family relations, identification and sex roles, and children's responses to intervention programs. The second section deals with the application of the research to selected areas of exceptionalities: gifted, mentally impaired, learning disabled, emtionally impaired, visually impaired, hearing impaired, and communicative disorders. A bibliography is presented at the end of each chapter.

In language, the need for longitudinal studies is stressed to determine the developmental sequence and progression in language acquisition. Perceptual research is now concerned with perceptual styles of the learner and future research will expand knowledge of perception beyond the visual realm.

Concept formation is presented with extensive attention to the Piagetian framework and major theories of development are reviewed along with the controversial aspects of stage dependent and fixed order developmental theories. The section on learning reviews current research on the role of attentional processes in children's learning and outlines the work that has been done concerning the learning that occurs in infancy. The need for application of research findings to educational programs is stressed.

In the family area, three dimensions of parental behavior and four dimensions of child behavior are identified. The importance of studying the child in the context of the family is stressed, as family relationships have been proven to directly influence child development. Further, sex role identification has been viewed as an important indicator of the stability of the developing personality, and plays an adaptive function within the social environment.

Much research has been conducted on intervention studies with young children and the major programs are reviewed. Measuring instruments are almost completely cognitive. Issues of gains made in particular programs, the type of program producing the most change, and age at entrance to the program are considered in the light of research evidence. Information about the transactional activities that occur in the specific programs is a research need. When this information is supplied, more will be known about what actually leads to measured gains.

The second section of the book provides information on model programs and current research in the selected areas of exceptionalities. (SS)

Gardner, R. The child's book about brain-injury with an introduction for parents. New York Association for Brain-Injured Children, 1966.

This book hopefully will relieve fears and insecurities a child may have developed because he knows somehow he is different, though no one will explain to him exactly what is wrong. The author introduces the book to the parents by describing his objectives and pointing out the value of some understanding for the child. Through the book the child can learn the basic function of the brain, and how people differ in so many physical and mental ways. The book then explains the causes of brain-injury and its meaning to and for the child, the difficulties many brain-injured children encounter and how these children can be helped through medicine and special education. Throughout the book the author places emphasis on the fact that brain-injured children can be helped and with hard work can improve. The last chapter summarizes the important points to remember in order for the child to gain understanding of what brain-injury should mean to him. (NAC)

Gassner, S. & Murray, E.J. Dominance and conflict in the interactions between parents of normal and neurotic children. Journal of Abnormal Psychology, 1969, 74, 33-41.

The family situation is a major determinant of a wide variety of neurotic, delinquent, and psychotic patterns of pathological behavior according to the authors. The amount of interaction between parents of normal children and parents of neurotic children is shown: the variables used were degree of parental dominance and conflict. Abnormal dominance patterns interfere with the sex-role-identification learning of the child. There is a positive relationship between the areas of parental conflict (achievement, affiliation and aggression) and the neurotic child's areas of difficulty. The problem behavior of the child is determined by the nature of the conflict between parents and the characteristics of the dominant parent, suggesting that there are many different types of linkages within the primary system. (PVAM)

Geisman, L. L. & LaSorte. Understanding the multi-problem family. New York: Association Press, 1964.

Previous studies of problem families have been limited to systematic research dealing with the vicissitudes and stresses of an inhospitable world. This book covers the definition and identification of the multi-problem family, the description and measurement of the degree of malfunctioning in problem families, the identification of conditions, settings, and characteristics associated with gross malfunctioning, and the implications for diagnosis, treatment, and community services. (PVAM)

Gil, D. Violence against children. Cambridge: Harvard University Press, 1973.

Gil describes the background and progress made in child care and protection and attempts to define child abuse. He provides a review of the literature on this topic to discuss recent progress toward understanding abuse, etiological considerations and the variety of opinions on the subject among scholars and professionals.

A survey administered by the National Opinion Research Center of the University of Chicago is described. The survey was designed to find and explain the prevailing attitude concerning child abuse in the U.S. today and to get an indirect estimate of the scope of this problem. The nationwide survey of abuse cases in the U.S. was predicted on the definitional assumption that abuse is the intentional, nonaccidental use of physical force or acts of omission that are aimed at hurting, injuring or destroying a child. Gil attempted to gather data from the entire U.S. and then took 30 sample cities and counties on which to do a more thorough analysis. The findings showed a discernible association between child abuse and selected characteristics of children, families, perpetrators of abuse and the circumstances surrounding the abuse. The author provides tables of the data and discusses the above in detail. (EV)

Ginsburg, H. & Opper, S. Piaget's theory of intellectual development: an introduction. Englewood Cliffs, New Jersey: Prentice-Hall, 1969.

A comprehensive overview of Jean Piaget's theory of cognitive development is presented in this book. Beginning with a biography of Piaget, the authors continue with a description of his fundamental ideas. In-depth accounts of Piaget's work with infants, children and adolescents include numerous examples of the data from which Piaget formulated his theory, both observational and experimental. The content of the theory is also discussed in detail, along with its implications for educational practice. (JS)

Glasser, P. & Glasser, L. N. Adequate family functioning. In P. Glasser (Ed.), Families in crisis. New York: Harper & Row, 1970, 290-301.

Adequate family functioning as a new concept for the psychiatric patient and his family are briefly discussed. Five criteria relating to adequate family functioning were devised: 1) internal role consistency of family members, 2) consistency of family roles and norms and actual role performances, 3) compatibility of family roles and norms with community norms, 4) meeting the psychological needs of family members, and 5) the ability of the family group to respond to change. (PVAM)

Giovannoni, J. M. & Billingsley, A. Child neglect among the poor: a study of parental adequacy in families of three ethnic groups. Child Welfare, 1970, 49, 196-204.

This research was directed at the question: How do poor families who don't abuse their children differ from those who do? The authors interviewed

186 low income mothers from three ethnic groups (Caucasian, Black and Spanish speaking) about their present and past life situations. The mothers were placed into three additional groupings: known neglect cases, adequate mothers and potentially neglectful mothers (latter two based on a scale developed by author).

The results of the study showed that social and family backgrounds did not contribute to significant differences between the groups. Parents described as neglectful are under greater environmental and situational stress, have fewer resources and have fewer supports in coping with stress than the adequate mothers. The neglectful had an impoverishment of extended kin relationships and were less adequate in acceptance of and meeting the needs of very young children. Ethnic variations also occurred, particularly in the areas of kin relationships, functioning in formal social systems and in child-rearing practices. The inportance of understanding families within an ethnic context is underscored. They also underscore the importance of evaluation and understanding of families within the ethnic context. (EV)

Goffman, E. The presentation of self in everyday life. New York: Doubleday & Company, 1959.

Goffman considers people as actors, and in this book, he focuses on "the way in which the individual in ordinary work situation, presents himself and his activity to others, the ways in which he guides and controls the impression they form of him, and the kinds of things he may or may not do while sustaining his performance before them" (p. xi).

The presentation of the child's self will broaden to wider contexts as he develops. To assure this, it is important that a child with a disability have a receptive audience (primarily the family), multiple roles, (not primarily handicapped) and participation in the situated presentations within his environments. To the extent that he is able to do this, he is adaptive. (JS)

Goffman, E. Stigma: Notes on the management of spoiled identity. Englewood Cliffs, New Jersey: Prentice-Hall, 1963.

This book focuses on stigmatized individuals. The author defines a stigma as "an attribute that is deeply discrediting" (p. 3) emphasizing that a stigma is actually a relationship between an attribute and a stereotype. The major portion of the book is devoted to discussion of stigmatized individuals, their feelings about themselves, and their relationships with others, with heavy reliance on autobiographies and case studies. All types of stigmatized individuals are included: the physically deformed, the handicapped, ex-mental patients, drug addicts, prostitutes, and others. (JS)

Goffman, E. Frame analysis: an essay on the organization of experience. Cambridge: Harvard University Press, 1974.

In Frame Analysis, Goffman presents a way of viewing the individual's subjective involvement in ordinary experience. People are viewed as actors, and experience is defined as something that an individual actor can take into his mind. In the theoretical framework he proposes, the unit of analysis is the organization of the individual's social reality. In this framework the "strip" is a "raw batch of occurrences (of whatever status in reality) that one wants to draw attention to as a starting point for analysis" (p. 10). The "frame" is the elements of the individual's subjective involvement in experience that can be identified.

Applying this method of analysis to disabled children would be valuable: it would focus on how the individual child organizes his experience. Children react to situations as actors in a particular environment. "The process of replying will carry some expressive involuntary overtones, which provide the observant recipient with additonal information--gleaned, not transmitted" (p. 511). Since an "at risk" child may not voluntarily reply with a reaction that is directly expressive (child cannot talk, child cannot hear information, child cannot walk), the reading of the involuntary overtones gains even more importance.

An important part of adaptation is in how the individual organizes his experience, and this abstract, non-quantifiable feature has been acknowledged but never analyzed. Goffman's system proposes constructs to look at the organization, but the research applications remain unspecified. (NAC)

Gordon, I. J. Parenting, teaching and child development. Young Children, 1976, 31, 173-183.

The author outlines the commonalities of the processes of parenting and teaching and in so doing describes a variety of interactions between parents and children. The elements are described as "5 P's, 4 R's and TLC": provision of the learning environment, predictability (need for order and system), ping-pong (reciprocal interactions), persistence (permission and encouragement to continue activity), professor (poor teaching behavior, according to Gordon), responsiveness, reasoning, rationality, reading and tender loving care. There is a great deal of research which can specify the elements of effective parenting and therefore prepare people for parenthood as well as for teaching.

Gordon also points out that the environment, whenever possible, should be matched to the child and that the elements of the environment should reflect respect for the individual and understanding of the child's needs. (CDL)

Gorelick, M. C. Are preschools willing to integrate children with handicaps? Careers in integrated early childhood programs. California State University, Northridge Preschool Labs, Washington, D.C.: Social Rehabilitation Service (DHEW), 1973.

A questionnaire was sent to 230 private nursery schools in northwest Los Angeles county to determine the schools' willingness to enroll children with handicaps. Of the 72 schools that responded, 60 were agreeable to having children with handicaps referred to them, 27 had children presently attending with physical handicaps and 17 had children with mental handicaps. Reasons cited for not accepting handicapped children were: lack of trained staff (29 schools), inappropriate facilities (15), and lack of appropriate license (10 schools). Respondents were most willing to accept partially deaf children and least willing to accept severely mentally retarded children. The study seemed to indicate an increased trend toward enrolling handicapped children in preschool programs. (JL)

Goslin, D. A. (Ed.) Handbook of socialization theory and research. Chicago: Rand McNally College Publishing Co., 1969.

Twenty-nine original articles on theories, concepts and topics in social development. Particularly substantial are Kohlberg's article outlining his stage theory of moral development, and Bandura's article outlining his social learning theory. Mussen's article on sex role development, and Rheingold's on infant interaction and attachment are valuable resources. Articles by Scott on blind children, and Zigler and Harter on the mentally retarded are noteworthy. (TZC)

Gottlieb, G. Ontogenesis of sensory function in birds and mammals. In E. Toback, L. R. Aronson, & E. Shaw (Eds.), The Biopsychology of development. San Francisco: Freeman Press, 1971, 67-128.

An extensive review and analysis of the development of the sensory systems in a wide range of birds and mammals is presented. Attention is paid to the relation of sensory function and motor development. Environmental effects on sensory development are explored. Attention is devoted to the characteristic infant human pattern of sensory precocity and motor immaturity. (TZC)

Griffing, B. L. Planning educational programs and services for hard of hearing children. In F. S. Berg & S. G. Fletcher (Eds.), The hard of hearing child. New York: Grune and Stratton, 1970.

All too often, the degree of hearing loss rather than the functional level of the child is used to determine appropriate educational placement. While the degree of hearing loss is an important factor, the author suggests that information on the onset of loss, type of loss, degree of functional residual hearing, extent of speech and language skills, potential for learning and the existence of secondary handicapping conditions may be of more use in correctly placing the hearing impaired child.

The author suggests several educational alternatives:

1. Special assessment classes designed to provide adequate diagnostic and evaluative services to the preschool and kindergarten child.
2. Individual instruction classes to furnish the classroom teacher and the parents with knowledge about the handicapping condition as well as ideas and information which they can use to aid the child's ability to learn.

3. Integrated classrooms.

4. Resource services to assist in problem areas which cannot properly be handled in regular classroom. Speech and language skills might be emphasized in the resource classroom.

Additional suggestions are: that the hearing impaired child be assigned to a normal hearing "buddy" who can help integrate the child into different environmental situation; that the services of an "Educational Audiologist" be provided; and that a multi-classroom approach be considered for the education of hearing impaired children. With proper attention and services, most of these children will be better aided by the educational system. (DK)

Grossman, H.J. (Ed.) Manual on terminology and classification in mental retardation. Washington, D.C.: American Association on Mental Deficiency Special Publication, #2, 1973.

For over 50 years the AAMD has been publishing manuals on classification in the area of mental retardation. To help provide the basis for planning programs for a highly heterogenous population, and to articulate the role that social, environmental and genetic factors assume, the classification system has been proposed.

The medical classification is complex, composed of categories, subcategories, etc. It does provide a sophisticated basis for delineating subgroups. Illustrations of adaptive behavior levels by age are given, primarily from a linear model. A glossary of terms (some of which are uncommon) is also provided. (NAC)

Gumperz, J. J. & Hymes, D. (Eds.) Directions in sociolinguistics: the ethnography of communication. New York: Holt, Rinehart and Winston, 1972.

An excellent series of papers exploring the emerging field of sociolinguistics. Among the highlights are articles of Hymes and Ervin-Tripp on the theory of sociolinguistics, articles by Garfinkel, Sacks, and Schegloff on the ethnomethodological analysis of situated interaction, one by Bernstein on his sociolinguistic theory of educability, and an exciting series on cross-cultural analyses. (TZC)

Haar, E., Welkowitz, J., Blau, A., & Cohen, J. Personality differentiation of neonates: a nurse rating scale method. American Academy of Child Psychiatry, 1964, 3, 330-342.

This rating method of classifying neonate personality bypasses changing states in infant and variations due to transient causes such as hunger, illness, and stimulation.

Specific factors rated were: muscle tension, spontaneous motor activity, irritability, likeability, prettiness, cuteness, degree of need gratification, discontentedness, wakefulness, ease of feeding, strength, responsiveness to stimuli, intelligence, response to physical contact, prediction of manageability, and sensitivity to sound.

The identified traits clustered around activity-placidity, which may not remain fixed and may be subject to environmental influence, and Factor HN (nurse halo), which may have implications for future interactions between infant and child-caring adults. It may be possible to match nurse ratings with mother rating in order to determine a congruence. Congruence or non-congruence may help determine future mediation strategies if necessary.

Future research should attempt to relate activity type with sensory capacity and also relate the degree of responsiveness and its relationship to future development and attachment. (CDL)

Haeussermann, E. Developmental potential of preschool children. New York: Grune and Stratton, 1958.

The Haeussermann test is a clinical procedure for longitudinal exploration of psychological functions of handicapped and non-handicapped children. The procedure allows not only for recording of successes, but exploring possible causes of failures in sensory, motivational, experimental, perceptual or other aspects of the child's psychological organization. The result of the evaluation is a profile of functioning abilities which can reflect the unevenness characteristic of some children and which provides a basis for elaborating a relevant custom-made educational plan.

The first part of the volume explains the educational evaluation and the need; the second part describes the intended populations, the training of the evaluator, the origin of the structured interview, and its contents. The third and fourth parts detail the administration and modifications, the recording, interpreting and reporting the results.

The procedure, a systematic sampling interview, has a dual purpose: 1) to sample the individual's interactions with the materials and setting and 2) to explore the extent and nature of an impairment revealed by the sampling. The author describes in detail her successful methods of probing and illiciting responses from a wide variety of handicapped children. The modification of each item encourage the examiner to present the items in several versions, the intent of which is to illicit a response. Each response is information about the child's level and pattern of functioning. (CDL)

Halter, J.C. & Friedman, S.B. Etiology and management of severely burned children. American Journal of Diseases of Childhood, 1969, 118, 680-686.

Halter discusses the slow, painful recovery of burn victims and the psychological trauma accompanying it which may have long-lasting effects. The author studied 13 cases who had experienced severe burns: ten of the 13 were boys and ten of the 13 had major psychological and social problems within their family units prior to the burn incident. Halter also discusses the etiology of burns and methods of working with children in several types of burn cases. (EV)

Heber, R. A manual of terminology and classification in mental retardation, 2nd ed. Springfield, Illinois: American Association on Mental Deficiency, 1961.

This chapter refers to Sloan and Birch's classification system for adaptive behavior, and proposes a statistical code for reporting the level of adaptive behavior. Adaptive behavior is defined as "the effectiveness with which the individual copes with the natural and social demands of his environment." The author notes that the Vineland Social Maturity Scale has been considered a major tool in determining levels of adaptive behavior, but cautions that its use must be tempered by clinical judgement. (DK)

Helfer, R. E. A plan for protection: the child-abuse center. Child Welfare, 1970, 49, 486-494.

Helfer proposes a treatment plan to protect abused children and meet the needs of their parents. He details five levels of involvement for mediators in child abuse cases, ranging from level 0, no intervention, abuse continues, to level 4, the child is safe in his home, and the psychiatric problems of the parents have been resolved. ~~He suggests~~ that a realistic goal at this time is level 3: the child is returned home and is safe there.

The theoretical base of the plan is described and shown in outline form. The emotional support systems of a normal family are compared to the deprivation and reversals of these supports in abusive families. The act of abusing a small child requires a combination of three elements: 1) the potential to abuse within the parent, 2) the presence of a "different" child, and 3) the occurance of a crisis or series of crises.

Helfer outlines a four step plan of treatment in abuse cases: 1) The child should be hospitalized for diagnosis. 2) A period of time, often 3-6 months, is needed in which to implement a therapeutic relationship between parents and therapists. 3) Parent aides help the parents to break down their wall of isolation, to develop friends and to learn how to ask for and accept help from others. 4) The child is returned home and the parent aide assistance is gradually phased out. Implementation of the plan calls for a Center for Study and Care of Abused Children which may be located in a hospital or social service agency. Team members would consist of parent aides, social workers, pediatricians and psychiatrists. (EV)

Hersch, L. B. & Solomon, M. A. A comprehensive approach to understanding deafness. American Annals of the Deaf, 1973, 118, 34-36.

The importance of the family condition at the time of onset of a handicap is discussed. The birth of a child with a compromising condition in any family may be considered a stress to the already constructed interactions and problem solving operations in that family. A family's capacity to integrate this child is therefore measured by its past ability to handle equally disorganizing stresses which have occurred. (PVAM)

Hess, R. D. & Shipman, V. C. Early experience and the socialization of cognitive modes in children. Child Development, 1965, 36, 867-886.

A theoretical perspective is presented arguing that central to the effects of cultural deprivation is a lack of cognitive meaning in the mother-child communication system. This lack is reflected in the language and social control systems of the family. Based upon research with black mothers and their four year old children, it has been shown that social class correlates posivitely with complexity of family language, and that the latter is predictive of the child's cognitive functioning. (TZC)

Hess, R. D. & Shipman, V. C. Early blocks to children's learning. In R. D. Storm & E. P. Torrana (Eds.), Education for affective achievement. Chicago: Rand McNally & Company, 1973, 28-38.

The influence of different socioeconomic factors in the preschool child's development were studied. Hypotheses were: 1) that the behavior which leads to social, educational, and economic poverty is socialized in early childhood and 2) that the central factor involved in the effects of cultural deprivation is a lack of cognitive meaning in the mother-child communication system. Results indicated a marked social class difference in children's ability to learn from their mother in favor of upper classes. (ABP)

Hintz, E. (Ed.) Anais Nin, a woman speaks--the lectures, seminars and interviews of Anais Nin. Chicago: Swallow Press, 1975.

This book is a compilation of passages drawn from Nin's public talks from the years 1966 to 1973. Eight representative lectures are presented on the themes of relationships, creativity, personality synthesis, the emergence of women, women restructuring the world, the artist as magician, and the dream and moving out from it. Enlightenment of contemporary concerns and Nin's struggle for self-knowledge emerge in her reflections in the Diary. Her magic words are trans--transforming, transposing, transcending, transmission, transition--to Nin they "lead out of the present, away from the painful, paralyzed spot in our lives." Viewing "trans" as vital to life, the importance of transitions for children with compromising conditions becomes more than just a smooth entrance into a new situation. Vital to developing, adapting, and being creatively human, the delay or inability to make transitions across diverse contexts is an indicator of an "at risk" state. Nin speaks to the wholeness of a person's life, and a child constructing wholeness must pass and pursue the magic of "trans". (SS)

Hunter, M. H., Schueman, H. & Friedlander, G. The retarded child from birth to five. New York: John Day, 1972.

Based on many years of experience with trainable children and their families at the Shield Institute for Retarded Children, this book, multidisciplinary in *its approach, presents data, insights, extrapolations, and educated guesses about the young retarded child. The major emphasis is on services for the trainable mentally retarded child with contributions made to the areas of early identification and intervention, comprehensive interdisciplinary evaluation, suitable treatment programs, the process of continuing reevaluation, and an understanding of the vital role of the family in the progress of the child. This volume clearly defines the population, the rationale for programming, suitable materials and training techniques, the results already obtained and their logical extensions and implications for the future in the area of infant and preschool programs for the trainable mentally retarded child. (ABP)*

Hutt, C. Specific and diversive exploration. In H. W. Reese & L. P. Lipsitt (Eds.), Advances in child development and behavior, 5. New York: Academic Press, 1970, 120-181.

An extensive review of the literature provides the context for an analysis of exploration as an initially attentional process. The parameters of environmental complexity and novelty are suggested as the basic contextual elicitors and supports for two types of exploration: specific and diversive. In general, the former refers to investigative activities, and the latter, play activities. (TZC)

Hymes, D. (Ed.) Language in culture and society. New York: Harper & Row, 1964.

An unsurpassed reference source and compendium on the history and present status of anthropological linguistics, the sociology of language, verbal play and art, and historical linguistics. There are no less than 69 articles, the vast majority of which are now recognized as classics and profoundly seminal papers. (TZC)

Kaplan, D., Smith, A., Grobstein, R., & Fischman, S. E. Family mediation of stress. Social Work, 1973, 18, 60-69.

Serious and prolonged illness is a common source of stress causing major adjustment problems for individuals and their families. As a member of a family system, individuals do not resolve their problems of stress independently, nor are they immune to the effects of stress concentrated in another family member. The family is uniquely organized to carry out its stress-mediating responsibilities and is in a strategic position to do so.

In order for the family to adaptively cope with stress, a better understanding of the process, including the socio-psychological problems, must occur. Professionals working with families under stress must offer appropriate help to handle and resolve specific problems of stress. When stress is prolonged, the role of a family as a buffer for its members can be permanently impaired or even destroyed.

This study dealt with 50 families of children diagnosed and treated for leukemia from time of diagnosis to two months after the death of the child.

The majority of the families failed to cope adequately as defined in this study. Success or failure to cope was viewed relative to how particular behaviors contribute or interfere with meeting the needs of the ill child and other family members. The reactions within the "failure to cope" category ranged from denying reality to massive and overt hostility to the professional. (NAC)

Kaplan, S. & Rank, B. Communication and transitory creativity in response to a trauma. American Academy of Child Psychiatry, 1962, 1, 108-128.

Presented are elements that seem common in the observed processes of communication and the creative endeavors of young children experiencing some transition. Reactions to two key events - a move to another dwelling and the birth of a sibling - are described for two young children observed during the first four years of life. For both of these children there was a progression of reactions through four stages: 1) initial sadness and withdrawal, 2) reliance upon transitional objects, 3) elaboration of fantasies centered upon transitional objects and 4) final mastery (and sublimation).

No mediation in the form of changed or adapted parental interactions with the children is described. One child, however, did receive some mediation from a therapist-observor in order to make more free opportunities for self-expression.

The two events experienced by these children seem to be of particular importance in the development of adaptive functioning given the frequency with which they occur for young children. (CDL)

Katz, S. N. When parents fail. Boston: Beacon Press, 1971.

The parent-child relationship, how it is viewed under the law and how the state attempts not to intrude on the privacy of the family in raising their children is discussed. The book explores when the state feels it can and when it does intervene in the family situation and the measures that are taken. Child neglect and how it is reported, investigated and handled by the authorities is also discussed, as well as how the state intervenes and the procedures followed in cases of foster care and adoption. The author seems to feel that the child's best interests are not often considered in the whole mass of red tape, that the rights of natural parents are considered foremost (sometimes to the detriment of the child) and that laws and precedents regarding child abuse and neglect are being very generally interpreted and implemented. (EV)

Klaus, M. H., Jerauld, R., Kreger, N. C., McAlpine, W., Steffa, M., & Kennell, J. H. Maternal attachment: importance of the first post-partum days. New England Journal of Medicine, 1972, 286, 460-463.

To determine the influence on maternal attachment of post-partum contact with the newborn, two groups of full-term primiparous mothers were compared. One group had the usual amount of hospital schedule contact, and the other was allowed extended contact. During a filmed interview one month after delivery, the extended contact group displayed greater infant soothing behavior, fondling, more extended eye to eye contact, and were more reluctant to leave their infants. (TZC)

Koch, R. & Dobson, J. C. The mentally retarded child and his family. New York: Brunner/Mazel, 1971.

A multidisciplinary set of original articles from a family and community systems perspective on various aspects of mental retardation. Discussions on the multidisciplinary approach to issues, evaluation and mediation are presented. Of particular note are the articles on familial and cultural effects, and education and training. (TZC)

Kohn, M. & Rosman, B. A social competence scale and symptom checklist for the preschool child: factor dimensions, their cross-instrument generality and longitudinal persistance. Developmental Psychology, 1972, 6.

Reported are the results of an experiment designed to measure the longitudinal persistance of the factor dimensions extracted from two teacher rating instruments: The Social Competence Scale, intended to measure the preschool child's mastery of environment, and the Symptoms Checklist, an observational inventory of clinical symptoms manifested in the preschool. By focusing on overt classroom behavior, social-emotional functioning presumably was assessed.

Although the study is primarily considered with the factor analytic study of the two major dimensions of social-emotional functioning across two instruments and across time, it has application to the study of adaptive behavior in the preschool child. The dimensions which emerged from the factor analysis of the Social Competency Scale have been interpreted by the authors to reflect the major adaptive demands that the preschool setting makes on a child. This entails both: 1) using the opportunities for learning, pleasure, and peer interaction and 2) living within the limits of the environment so that a normal group process can be maintained. In addition, the results suggest that the preschool teachers' ratings of good function were related more to the extent of the child's involvement in activities than to his cooperation and compliance with routines. Both the teacher's perception of the child and the child's reaction to the adaptive demands of the preschool environment will influence the child's overall adjustment to the school setting. (SS)

Kroneck, D. The importance of a sociological perspective towards learning disabilities. Journal of Learning Disabilities, 1976, 9, 115-119.

The author stresses the sociological implications of the labeling and handling of children identified as having learning problems. She describes the process as moving a child through a "betrayal funnel" until a status change has been accomplished such that the child and interacting adults see the situation from a pervasively handicapping perspective. Discussions regarding consequences of adult behavior towards the child are thought-provoking. Few concrete suggestions for improvements are stated other than the clear realization that a radical change of the child's self-concept is likely to occur as a consequence of adult intervention and actions. (NAC)

Lambie, D. Z., Bond, J. T., & Weikart, D. P. Framework for infant education. In B. Z. Friedlander et al. (Eds.), Exceptional infant, vol. III. New York: Brunner/Mazel, 1975, 263-283.

The authors present a comprehensive framework by which early educational programs may be viewed. Tracing the traditional models, they differentiate what they consider deficit and non-deficit models, and explore theories of learning and child development. They carefully make explicit what has been generally treated as implicit when they propose three assumptions underlying the parents' roles in early education. The assumption in the programs run by the authors is that parents are co-equals in determining the goals and practices of effective child-rearing. This is in contrast to other programs, presumably with other assumptions. (NAC)

Lambert, N. M. Validity of the AAMD Adaptive Behavior Scale for the public school populations. Presented at symposium, Psychoeducational assessment in the seventies - a look at measures and concepts. American Psychological Association Convention, New Orleans, Sept., 1974.

This paper is a report on the standardization of the public school version of the American Association of Mental Deficienty (AAMD) Adaptive Behavior Scale. Determinations in the pilot phase of the study were: 1) how the Scale performed on a public school population, 2) what contributions parents and teachers made in assessing a child's adaptive behavior, and 3) what procedures were most successful in supplying data called for by the scale. The standardization phase required the development of the sampling plan, determined by a multi-ethnic advisory board.

The sampling plan called for 200 "trainable mentally retarded" pupils, 400 "educationally handicapped" children with the remainder of the 300 subjects distributed equally between pupils from regular and "educably mentally retarded" classes. The final population was 2600 children. Results of the pilot showed that teacher's and parents reports of adaptive behavior were equivalent in the standardization population. The sample was defined on the basis of class placement, sex, population, density of residence, socio-economic status, ethnic status, and age. The evidence from the analysis of the contribution of sex, ethnic status, population density and socio-economic status suggests that Part One of the Scale can be thought of as relatively independent of sex and ethnic status effects; thus, a single set of norms is appropriate for children of both sexes who are White, Black, or of Spanish-speaking backgrounds. The interpretation of the domain scores on Part Two of the Scale based on a single set of norms should proceed cautiously; one should consider the child's domain scores with respect to the norms for sex and ethnic status in order to have as much comparative information as possible. According to the authors, the results of the public school standardizations of the AAMD Adaptive Behavior Scale appear to demonstrate *that the scale can provide a valid, useful assessment of elementary school children's adaptive behavior and, with other data on the child, can help formulate educational plans for the individual child. (SS)*

Lawrence, E. A. & Winschel, J. F. Locus of control: implications for special education. Exceptional Children, 1975, 41, 483-490.

The authors contend that internal locus of control (reinforcement seen by the individual as a consequence of his own actions) must become a conscious goal in the education of handicapped children. Research has shown that children in special classes are less likely to accept responsibility for their own actions that are non-special class individuals presumably because they have had less opportunity to develop internal responsibility for control. This may be counter to the special educators major goal of the development of self-reliance which can be seen as a facet of internal locus of control.

Many special education children are being mainstreamed; the authors discuss the possibility that success or failure in the regular classroom may be influenced by the child's locus of control with the more successful those who have more of an internal locus of control, and hence seem more easily to "adapt". Because feelings of success and failure are seen to have differential effects on individuals and because internal locus of control seems to develop in stages, it seems important for teachers to be sensitive to the individual child's reactions and stage of development. In this way the level of internal locus of control may be used as a criterion for initial placement in a mainstreaming sense.

The research in locus of control appears to have broad implications for parents, teachers and all who are responsible for creating and arranging environments and interactions with the child. (CDL)

Leifer, A. D., Leiderman, P. H., Barnett, C. R., & Williams, J. A. Effects of mother-infant separation on maternal attachment behavior. Child Development, 1972, 43, 1203-1218.

In a study of attachment behavior, smiling to infant and proximal holding of infant, mothers of full-term infants experiencing periodic full contact were compared to mothers of premature infants who were separated from them. Predictably, mothers in the former group displayed more attachment behaviors; additionally, the incidence of marital difficulties and divorce was higher for the latter group of mothers. (TZC)

Leitch, M. & Escalona, S. The reaction of infants to stress. The Psychoanalytic Study of the Child, 1949, 3-4.

The investigators observed infants' changes in levels of tension. The criteria for determining increased tension devised by Lewin and associates were used as behavioral indices. These criteria generally represent a primitivization of functioning, seen as a regression to less mature modes of instinctual gratification in response to trauma or stress. The regression may be seen as *a defense against an intolerably high state of tension occuring because of a severe disruption of homeostatic state.*

In the infants observed, responses were: heightened irritability, affective lability, loss in attention span, lowered frustration tolerance, loss in neuromuscular coordination, disturbances in perception of unfamiliar persons, and increased disturbance at a change in surroundings. (CDL)

Leland, H. Introduction and theoretical considerations. In E. Kagin (Ed.) Conference on measurement of adaptive behavior: III. Parsons, Kansas: Parsons State Hospital and Training Center, 1968.

The author defines adaptive behavior and its components: independent functioning, personal responsibility, and social responsibility. The critical demands of the community in which the individual is residing are stressed and the concept of visibility discussed. Age-specific expectations modify the community critical demands to allow increased tolerance at lower ages. The value of the concept in training and program planning is briefly reviewed. (AdBB)

Leland, H. Mental retardation and adaptive behavior. Journal of Special Education, 1972, 6, 71-80.

The problem of inter-rater reliability in the Adaptive Behavior Scale is defended by the author. Environmental and cultural biases and priorities are the mentioned causes for yielding different ratings in different situations on the same individual. A person's coping behavior in a particular situation depends as much upon his own abilities to cope as it does upon the perceptions and biases of the individuals who spend time with him. These perceptions of the person who spends time with the individual in a particular situation are, therefore, deemed important and credible in yielding an accurate description of the individual being rated, in light of that particular environmental setting. Intervention and programming must be designed to help the individual cope with his environment, for his environment and the people who work with him inside that environment are responsible for his success or failure. Retardation is defined as behaviors an individual exhibits that exclude him from his social environment. The author calls for a greater concern in reversing and modifying behaviors that exclude individuals rather than the current practice of allowing the label of mentally retarded to be used as a stopping point for any possible intervention. (AdBB)

Leland, H. Adaptive behavior and mentally retarded behavior. In C.E. Meyers, R.K. Eyman, & B. Tarjan (Eds.), Sociobehavioral studies in mental retardation, American Association on Mental Deficiency, Washington, D.C.: Monograph #1, 1973.

"Mentally retarded behavior" is discussed in terms of adaptive behavior. In the author's perspective, the three behavioral dimensions of adaptive behavior, independent functioning, personal responsibility, and social responsibility, are discussed as prerequisites for an individual to be able to cope with personal,

social and societal demands. Intelligence is presented in terms of a social and cultural definition. A person who is seen as not "coping" with his social adaptive environment is "visible" because he is different, and is in need of some form of mediation. The goal for every mentally retarded and developmentally disabled person is to exhibit "coping" behavior, discussed in terms of "invisibility" in the social adaptive environment. (AdBB)

Leland, H., & Husseini, M. Adaptive behavior and social adjustment. Paper presented at the meeting of the American Psychological Association, Montreal, September, 1973.

The Adaptive Behavior Scale (ABS) is discussed in terms of treatment and training in this paper. The three factors which emerge from the ABS are: personal independence, personal adaptation and responsibility, and social adaptation. These factors are discussed as elements of coping strategies a retarded person needs to learn. The issues of visibility and social tolerance are discussed in detail using studies to demonstrate that social adjustment is a prime requisite for a retarded person to succeed in leading an effective life--be it in a school, an institution, a half-way house, or in a community environment. The authors conclude that more emphasis is needed in the treatment and training of retarded individuals so that "adaptive behavior and social adjustment" may take place. (AdBB)

Leland, H., Nihira, K., & Shellhaas, M. The demonstration and measurement of adaptive behavior. In B.W. Richards (Ed.), Proceedings of the First Congress of the International Association for the Scientific Study of Mental Deficiency. Reigate, England: Michael Jackson, 1968.

Discussed are historical precedents, research, and critical sociocultural factors relevant to adaptive behavior as a classification dimension in mental retardation. The shortcomings of the I.Q. method of classification are pointed out relative to adaptive behavior as a means of evaluation. The importance of adaptive behavior as the reversible aspect of retardation is stressed in potential evaluation, program placement, and training. The sociocultural elements, embodied in particular environmental expectations and the individual's ability to discern these critical demands, are emphasized. The "bookkeeping" aspect of adaptive behavior (designation of levels) is of far reaching practical utility in effective individual management. (AdBB)

Leland, H., Shellhaas, M., Nihira, K., & Foster, R. Adaptive behavior: A new dimension in the classification of the mentally retarded. Mental Retardation Abstracts, 1967, 4, 359-387.

This overview of the development of adaptive behavior as a concept of classification acknowledges that despite interest, there has been some difficulty defining the concept precisely. Research on the measurement and definition of adaptive behavior is needed to provide an improved instrument for evaluation, treatment, and placement. The article reviews current definitions, research on adaptation, mental retardation in general and sociocultural considerations, and work in the development of some form of assessment device to measure adaptive behavior. A bibliography including all material pertinent to adaptive behavior up to that time is included. (AdBB)

Lenneberg, E.H. Biological foundations of language. New York: Wiley, 1967.

This book examines language, language development, and language impairment from a biological point of view. By investigating anatomic, physiologic and genetic characteristics of the human capacity for language, Lenneberg provides a solid counter argument to the behavioristic approach to language acquisition. Of primary interest is the discussion of the "critical age" period for language development, which has far reaching implications for language delayed and language disordered children as well as for instruction in second languages.

After developing the biological thesis by investigating anatomical and physiological correlates to the language system, the author discusses the unfolding of language as a maturational process. Neurological impairments resulting in language pathology are used as evidence to support the biological theory. A detailed discussion of normal language development in children as well as deviant language in deaf and retarded children is provided. The author further discusses the relationship between language and cognition, and how cognitive processes limit the capacity of the language system, supporting this observation by examining "language universals".

Throughout the text, numerous references are provided to support the theory as well as to provide the interested reader with further sources to investigate. Two valuable appendices are: The Formal Nature of Language by Noam Chomsky and The History of the Biological Bases of Language by Otto Marx. (DK)

Levitt, E. & Cohen, S. Educating parents of children with special needs. Young Children, 1976, 31, 263-272.

The author describes a variety of treatment programs involving parents (operationally defined as mothers). Center-based, home-based, and group programs are discussed with brief descriptions of each. The authors relate current parent involvement programs for children with special needs to those programs earlier designed, implemented and partially evaluated for parents of low-income levels (primarily Headstart). The authors stress the mutual modification necessary between professionals, paraprofessionals and parents, including elements of coping with alien environments and modes of operation. They stress also the need for research on particular types of intervention programs, the need and benefits of involving paraprofessionals, the need for modification of individual styles (if possible), the need for flexibility and adaptability of teaching procedures with some concurrent structuring, and finally the need on the part of all professionals for a healthy respect for parents as active and learned participants in each interactive relationship. (NAC)

Lewis, M. (Ed.) The Effect of the infant on its caregiver. New York: John Wiley, 1974.

A valuable and stimulating collection of original articles all from a bidirectional, interactionist perspective. The primarily theoretical articles by Bell, Lewis and Lee-Painter, and Korner are of real value. The articles by Brazelton, et al., and Stern on the structure of parent-child interaction are clearly noteworthy. Brazelton's concept of interactional harmony is beautifully detailed and most provoking. There is an important series of articles on man and other primates, by Fraiberg, Rosenblum and Youngstein, and Sackett and Ruppenthal on the effect upon the structure of the dyadic, familial and troop structure of a disabled infant. (TZC)

Lewis, M. (Ed.) Origins of intelligence: Infancy and early childhood. New York: Plenum Press, 1976.

Articles by respected authorities in the field of infancy and early childhood research were selected by Lewis so that the concept of infant intelligence could be examined through a multi-dimensional approach. The use of a variety of perspectives (biological, social, cognitive and affective) allows the reader to "interact" with the perspectives individually and gain insight into the total concept of infant intelligence as a complex, developing system.

The first four articles of the volume provide a well-documented account of the history of infant intelligence testing and the values and limitations of infant tests and scores. Two major conclusions drawn by the authors of the article on the history of infant testing revealed that: 1) in contrast to earlier tests of general intelligence the more recently developed tests tend to emphasize specific behaviors and skills as possible predictors of later development and 2) the most reliable findings in the study of infants come from studies in which the examiner was familiar with the characteristics of infants, had developed skill in working with infants, was aware of the problems inherent in assessing infants, and who personally administered the tests.

Each of the remaining authors examine some of the pertinent questions related to the problems of infant intelligence and learning from varying perspectives. The volume, as a multi-disciplinary perspective, clearly supports the complexities of modern day adaptation to varying contexts and environments. (GC)

Lidz, T. The family and human adaptation. New York: International Universities Press, 1963.

A seminal work by Lidz on his family system psychiatric perspective on early development and communication. His discussions of the family communication network, and its relation to the etiology of schizophrenia are clearly and persuasively presented. He also presents a valuable discussion of the Bateson-Jackson double-bind theory, as well as Wynne's pseudo-mutuality theory. (TZC)

Lovaas, O.U., Koegel, R., Simmons, J.Q., & Long, J.S. Some generalizations and follow-up measures on autistic children in behavior therapy. Journal of Applied Behavioral Analysis, 1973, 6, 131-166.

Twenty children labeled "autistic" were treated with behavior therapy. Most of the children at intake were considered extremely disturbed, indicating poor prognosis. Treatment for these children was done in separate groups and for some children treatment occurred more than once, allowing for within and between-subject replications of treatment effects. Reliable measures of generalization across situations and follow-up studies on behaviors were presented. Results indicate that all children improved, some more than others. Inappropriate behaviors (self-stimulation and echolalia) decreased and appropriate behaviors increased (appropriate speech, appropriate play, and social non-verbal behaviors) during therapy. About eight months into the treatment some of the children started entering into spontaneous social interactions and use of language; I.Q.s and social quotients also reflected improvement.

Follow-up measures, recorded over a one to four year period, indicated the post treatment environment had an effect: children of parents who received training on how to carry out behavior therapy improved, children who were institutionalized regressed. Therapeutic gains originally made were reestablished when behavior therapy was reinstated. (JB)

Lynn, D.B. The father: His role in child development. Belmont, California: Wadsworth Publications, 1974.

The author integrates empirical data and theoretical analyses. Many approaches are reviewed and critically evaluated from a multidisciplinary perspective. Drawing from psychiatry, sociology and anthropology, he presents abundant evidence that the father's role in child rearing varies from society to society and, in Western society at least, from one era to another. The father's role must be considered in its social context and viewed in historical and cross-cultural perspective. The author points out the directions future investigations must take if they are to be fruitful in producing more comprehensive and meaningful solutions to basic problems. Selected aspects of more than forty topics include: father absence and detachment, divorce, changing sex roles, cultural similarities, paternal nuturance, offspring rated as maladjusted, etc. (NAC)

Maccoby, E.E. Why do children watch television? Public Opinion Quarterly, 1954, 18, 237-244.

This study examines the relationship between the level of a child's frustration and the amount of time spent watching T.V. The study reports that highly frustrated, upper-middle class children spent the most time viewing T.V. In the upper-lower class, there was no relationship found between frustration and T.V. watching. Class differences were also related to the amount of time the parent watches T.V.; in the lower-middle class, T.V. is the dominant activity of the family, so it is assumed children will be drawn to it regardless of frustration level.

The pattern of a child's activity and responses to frustration are linked to *the existing patterns in the family. Social class has an effect on family pattern, and this article demonstrates how such a seemingly neutral activity as T.V. watching has multiple determinants. (SS)*

McDonald, E.T. & Schultz, A.R. Communication boards for cerebral palsied children. Journal of Speech and Hearing Disorders, 1973, 38, 73-88.

Some cerebral palsied children, because of severe motoric disability, are unable to develop functional speech. Often the greater their desire to communicate, the more tense they become, and the less successful are their attempts at speech. Unable to communicate, such children often become passive and dependent. They are denied the practice and experiences necessary for the development of language abilities and effective social interaction. The early use of a communication board helps prevent many of these problems. The child should be evaluated physically to determine positions and movements which facilitate pointing. Intellectual and educational assessment are needed to determine board content. Content and physical layout are also discussed. Good clinical results are obtained with language boards. The children become more relaxed, and their oral responses and vocalizations increase. Phonics, vocabularly, reading, and other linguistic skills improve considerably when children are able to express their thoughts and feelings. A communication board is a creative attempt at adapting an environment to facilitate negotiation of a major developmental issue. (DK)

Mahler, M.S. On human symbiosis and the vicissitudes of individuation. New York: International Universities Press, 1968.

Mahler's detailed presentation of her psychoanalytic theory of attachment and the processes of individuation. Of central importance is her theory of the etiology of infantile and childhood psychosis. (TZC)

Mahler, M.S., Pine, F. & Bergman, A. The psychological birth of the human infant. New York: Basic Books, 1975.

Based on years of research into normal and abnormal processes of development, Mahler and her co-workers present separation and individuation as two complimentary developments. Separation is depicted as the child's emergence from a symbiotic fusion with the mother. Individuation, on the other hand, relates to the child's assumption of his own individual characteristics.

The various subphases of the process are described clearly and supported by detail from clinical observations, much of this on five epigenetic case studies. The sections on research methodology and setting (including effects of changes in setting) provide a valuable tool for evaluation and replication. Comprehensive appendices, glossaries and references further strengthen the work. (NAC)

Maier, H. The cognitive theory of Piaget. Three theories of child development, New York: Harper and Row, 1969, 83-157.

A synthesis of Jean Piaget's contributions to the field of cognitive development is presented in this chapter. There is a brief description of Piaget's life and work, followed by a discussion of his theory as it relates to other child development theories. After an explanation of the guiding principles and assumptions that form the framework for the theory, the major portion of the chapter is devoted to describing the sequential phases of cognitive development as conceived by Piaget. (JS)

Mattick, I. & Murphy, L. Cognitive disturbances in young children. In S. Sapir and A. Nitzburg (Eds.) Children with learning problems, Brunner/Mazel, 1973, 415-450.

Prerequisites for optimal development in cognitive functioning are discussed. One such important prerequisite is a warm and accepting environment with appropriate feedback. Without this, a young child, who does not yet discriminate between internal and external experiences, perceives the environment as the source of internal distress. This leads to distorted perceptions and a decrease in objectivity.

Many infants in the"normal" range are seen as being vulnerable and needing assistance to promote cognitive growth. It is thus important to consider the interaction of the environment with the pattern of vulnerability of the individual child. Poorly functioning youngsters who are active may be labeled "emotionally disturbed", whereas children who are seen as very passive may be labeled "retarded". The article further discusses the difficulties in assessing cognitive deficiencies because of the many factors involved and stresses a need for clearly differentiated concepts about cognitive deviations.

The authors point out that as long as investigations are dominated by illustrating deficits rather than understanding the cognitive development in children in relation to adaptations to life experiences, there will be little progress toward helping children learn. Before a child can learn he must be comfortable with himself and know his capabilities and limitations as well as his intentions: only then will a child be able to develop his cognitive abilities to the fullest. (AM)

Meadow, K. & Meadow, L. Changing role perceptions for parents of handicapped children. Exceptional children, 1971, 38, 21-27.

Realization that their child is handicapped brings on a distasteful status for most, if not all, parents who find themselves in this position. In this article parents focus on the child as an enriching and identifying element in their lives. The parents may be provided with effective and productive experiences because of this child.

Two roles for parents of handicapped children are discussed: 1) instrumental or technical and 2) expressive or emotional. Socioeconomic status, parental expectations versus child's ability, availability of medical treatment, age of parents, birth order of handicapped child, and religious orientation are discussed in regard to degree of parental acceptance of the handicapped child. (NAC)

Mercer, J.R. An analysis of factors in the family's withdrawal of a patient from a hospital for the mentally retarded. Unpublished doctoral dissertation, 1963.

The dissertation is a sociological study of families having a mentally retarded member hospitalized in an institution for the mentally retarded. The objective of the study was to determine what factors are related to the family's withdrawal of the patient from the hospital. A comparison of the families of retardates who had been discharged from the hospital with the families of retardates who were still residents at the hospital at the time of the study was the method used to determine the factors. The information about the families was obtained by interviewing one member of the family, usually the mother.

The following findings seem relevant: 1) Resident patients were found to have more physical handicaps than discharged patients, 2) Resident patients were more frequently diagnosed into categories having specific clinical symptoms, while discharged patients were more frequently diagnosed as familial or undifferentiated, 3) The socioeconomic status of the families of discharged patients was lower than that of resident patients, 4) There was a closer consanguinity between the discharged patient and his current family than between the resident patient and his current family, 5) The mothers of discharged patients were younger than the mothers of resident patients, 6) Resident patients of low socioeconomic status came from families with low marital stability more frequently than did discharged patients of low socioeconomic status, 7) Resident patients were reported as having caused their families more problems than discharged patients, 8) Mothers of discharged patients were more likely to blame themselves for the retardation than mothers of resident patients, 9) The families of resident patients were more favorable toward the original placement of the retarded member, 10) The discharged patient was more likely to have been placed in the hospital because of community pressures, while the resident patients were more likely to have been placed because of family problems.

The differences found in this sociological analysis suggest multiple, complex, interactive processes within family systems. The discharged patients seem much more likely to be able to adapt to a changed environment--less a function of the individual than a function of the different environment. (JS)

Mercer, R. Sociological perspectives on mild mental retardation. In C.H. Haywood, (Ed.) Social-cultural aspects of mental retardation, New York: Appleton-Century-Croft, 1970, 378-391.

The perspective taken towards mental retardation is a fundamental issue in the handling of "retardates". Children with comparable disabilities receive different treatment in a medical environment than they would in a home. In the medical environment, children are usually restricted and grouped by age and handicap. In homes, children are more likely to be free and unregimented, of widely differing ages, with outside contacts. From a clinical perspective, a pathological model borrowed from medicine, mental retardation is regarded as a disease process involving biological damage, and the retardate (when placed in a hospital) is a "patient" or "inmate". This "disease model" involves many communities, influences the vocabulary of professionals, and promotes the use of more precise diagnostic instruments: and perhaps only for the severely and profoundly retarded does it furnish an adequate frame of reference.

A social-system mental retarded analysis (more frequently applied to mild retardation) has the ability to create deviant, disesteemed status for those who do not fulfill expected roles in society. Mental retardation from this perspective is viewed not as individual pathology, but as a discription of one's social position. Effects may be seen in the school systems, where mere enrollment for the "retarded" child gives him the status of "EMR"--thus predicting at least a reading problem, a speech problem, and underachievement. Clearly the perspective has an influence on life's alternative pathways for the labeled child. (NAC)

Mercer, J.R. Labeling the mentally retarded. Berkeley, California: The Regents of the University of California, 1973.

This book is the product of an eight-year long study of the labeling process of mentally retarded persons in the city of Riverside, California. The author comprehensively investigates and describes this process, discussing the implications of the existing systems and recommendations for the future.

Mercer describes two contrasting points of view from which mental retardation can be considered: the clinical perspective and the social system perspective. The clinical perspective, which is by far the more common position, classifies mental retardation as a handicapping condition existing within the individual. From the social system perspective, mental retardation is not an individual attribute, but instead is an achieved social status; being "mentally retarded" consists of playing the role of a retardate in one or more social systems. Within this framework, a low test score or an organic defect is not a symptom of retardation, but is rather a characteristic that will increase the probability of an individual being labeled retarded. It is, thus, possible for a person to be mentally retarded in some social systems and not in others.

After an in-depth study of the population and social systems in Riverside, the author concludes that there are some modifications that could be made in the clinical perspective that would maximize convergence between the clinical and social system definitions of mental retardation. She suggests that a two-dimensional model of retardation be adopted. According to this model, a person would have to fail both the intellectual dimension and the adaptive behavior dimension to be labeled retarded. From the results of the Riverside study, she demonstrates that adaptive behavior and intellectual functioning are, in fact, two independent dimensions and should be measured accordingly. She also finds that the percentages of retardation in Anglos are not affected by the addition of the adaptive behavior dimension, but that the percentages for Mexican-Americans and Blacks are greatly reduced by this addition. She hypothesizes that many members of these latter populations do not have as great an opportunity to learn cognitive skills and, therefore, do not acquire the knowledge needed to pass an intelligence test. They can, however, demonstrate their ability to cope intelligently with problems outside the academic setting, and by achieving within the adaptive behavior dimension should, therefore, not be labeled retarded. (JS)

Mercer, J.R. When you're up to your waist in alligators...SOMPA...or find a system for multicultural pluralistic assessment. Keynote address to Michigan council for exceptional children, Grand Rapids, March, 1976.

The address centered on the System of Multi-Cultural Pluralistic Assessment (SOMPA) of elementary school-aged children and how the system fits into three different but mutually compatible models. There are two parts to SOMPA: 1) interview with mother and 2) test session. In an interview with the mother, sociocultural modalities (family background) are discussed as well as questions relating to the child's "non-scholar" roles (i.e., family, peer group, community, non-academic school,etc.). A health history inventory is also taken during the interview. In the test session, additional information is gathered: WISC-R, physical dexterity, Bender-gestalt, height-weight, and vision.

All information is categorized according to degree of fit to one of the three models which are simultaneously used to view each child. Each of the three models, Medical, Sociological and Pluralistic, are described in terms of particular dimensions: definition of normal/abnormal, assumptions of model, characteristics of model, properties of statistical distributions of scores on measure, characteristics of appropriate measures, interpretation of scores and appropriate SOMPA measures.

The information gathered can thus be evaluated against the particular mode. Current (and previously unpublished) research evidence indicates that when used in multiple regression analysis, it is possible to more accurately assess the degree to which any individual can be judged as adaptive or maladaptive, allowing for differences in socio-ecological contexts. One of the important suggestions is that this process does not involve new "culture-free" instruments, but rather than existing instruments can be used and analyzed against an appropriate individualized context. (NAC)

Moran, M.J., Niedz, B.J. & Simpson, G.M. The resource family. Children Today, 1975, 4, 26-29.

"A resource family is defined as an established family, usually one with children, which would like to initiate and maintain an ongoing relationship with an emotionally disturbed child in residential treatment." The article describes the process by which a resource family becomes comfortable with the child, and discusses the use of a resource family as a viable part of the treatment program. This use of community families is effective when the proper match is made between the child and the family, and it supports the developing child in an accepting, accommodating and mutually beneficial system. (SS)

Munn, V.C. How April learns. American Baby, 1976, 38, 40-42.

The modifications and adjustments of one family and their visually impaired infant are described. Some specific incidents in child-rearing as well as particular developmental issues are discussed as they relate to the unique needs of the individual and the systems to which she belongs. (CDL)

Murphy, L.B. Assessment of infants and young children. In American handbook of psychiatry, 1975, 207-137.

Assessment is presented as a tool which describes the "vulnerability" or "at risk" condition of the child, environment, and the interactions between and within, providing a mechanism for progression of development. "Certain environments are being recognized as predisposing factors in the vulnerability of children" and risk conditions are further specified in both the mother and child. High risk mothers are those especially "with sensory defects, deficiencies of strength, energy, or physical resources as well as apathy, depression, extreme passivity, excessive ability, and marked irritability or hostility" (p. 112). "High-risk children preclude the genetically handicapped and others vulnerable to stress related to specific lacks" (p. 112). The scope, types of assessment, assessment areas in development, and outcome of assessment are considered. (SS)

Murphy, L.B. Individualization of child care and its relation to environment. In American handbook of psychiatry, 1975, 65-104.

Murphy lists adaptive capacities requiring support from the environment during a child's first two years of life as: (1) general level of well being, (2) perceptual and motor responsiveness, (3) autonomy, selectivity, self-management and coping resources, (4) social interaction, (5) cooperativeness, (6) management of frustration, (7) differentiation of self, (8) self-feelings, (9) goal-orientation, (10) increasing integration of play, (11) development of stable relationships, and (12) help in mastering trauma. These capacities, which should develop in the child, emerge in the context of the child's environment. Assessment is a complex and difficult feature. The changing demands for space, objects, and environmental atmosphere are dealt with in an age-specific fashion. The chapter also stresses the importance of adapting to individual needs in child care and offers concrete suggestions for fulfilling goals of young children in environmental terms.

Although this chapter deals with adaptation in a broad sense, and provides information to care-givers on individualizing services, no mechanism is suggested by which teachers can integrate the many needs of the child to produce a cohesive and complete acknowledgement of the numerous considerations that are a part of child care in an environmental context. Especially with "at-risk" or compromised children, adaptational capacities do need support from the environment, but a systematic and comprehensive way of providing this is not suggested. (SS)

Murphy, L. & Moriarty, A. Vulnerability, coping and growth: From infancy to adolescence. New Haven: Yale University Press, 1976.

This book presents a carefully investigated, long-range study of the development of children from earliest infancy through adolescence. In their work, Murphy and Moriarty differentiate coping from defense mechanisms and adaptive functions, giving added emphasis to the relationship of coping to internal and external stress. The authors present detail (particularly in the Appendices) regarding the types of measures and analyses used over the years in a medium-sized Kansas town, the site of their study. They are as aware of the uniquenesses of the geographical and environmental area as they are of the differences between children. The authors closely examine the interrelationship between external events and internal emotional balance, the children's judgment and its influence on future development. The sections on infancy and preschool are particularly relevant, but following all the children through adolescence is rewarding.

The authors attend to the minute components constituting a child's behavior and to the differentiating developmental process. In addition, the study addresses itself to individual variability and vulnerabilities. It is a systematic and microscopic study of increasing complex contexts. (NAC)

Mussen, P.H. (Ed.) Carmichael's manual of child psychology, Vols, 1 and 2, New York: John Wiley and Sons, 1970.

A massive, two volume collection of original articles on both stages and topics in development through adolescence. The major emphasis falls on infancy and childhood, with an important section on psychopathology. The coverage is extensive: from articles on physiology to an important article by Piaget. Of particular interest are articles on mental retardation, behavior disorders, and childhood psychosis. (TZC)

Nazzaro, J. Head start for the handicapped - what's been accomplished? Exceptional Children, 1974, 41, 103-106.

The article addresses the problems Head Start has had related to the mandate ordering integration of handicapped children into their program. Problems result from trying to fill the 10% quota set in 1972. There has been "over-reporting" of handicaps, mislabeling, etc. Nazzaro discusses reasons for this, problems resulting from labeling and mislabeling, the need for definition of particular handicaps and the need for parent involvement. (JL)

Neifert, J.T. & Gayton, W.F. Parents and the home program approach in the remediation of learning disabilities. Journal of Learning Disabilities, 1973, 6, 85-89.

The authors present their perspective on the difficulty of setting up home programs in the area of learning disabilities. They have identified several types of families considered to be "high-risk" for implementing specific programs. Implicit are the interactive effects of certain types of family situations and explicit are the recommended activities that professionals should explore. The authors take no stand on "home programs" per se, but instead urge professionals to consider the family dynamics very carefully. (NAC)

Newman, B.M. & Newman, P.R. Development through life: A psychosocial approach. Homewood, Illinois: The Dorsey Press, 1975.

This text on human development is unique in the field in its attempt to present psychological development throughout the life cycle integrating theory with research in developmental issues. The basic organization is founded on psycho-social phases, each chapter including developmental theories and current research. Such elements as developmental tasks, psycho-social crisis, integration of research findings, and applied topics are part of each chapter. (JS)

Nihira, K. A study of environmental demands as an aid to construct a behavior rating scale. Project News of Parsons State Hospital and Training Center, 1967, 3, 2-21.

A critical incidents technique was utilized to determine what behaviors would be problematic in several environments (i.e., two state institutions, special education classes of a public school system, and 23 state day care centers). Differential importance was attributed to self help skills and the domains of emotional and conduct disorders. Self help skills are more problematic in the institution while emotional and conduct disorders are more so in the community. Two possible reasons are given: 1) institutional residents are generally thought to be lower functioning and 2) community individuals have acquired adequate self help skills. Implications for treatment and training program placement are mentioned. (AdBB)

Nihira, K. Environmental expectations and adaptive behavior. Proceedings of the 79th Annual Convention of the American Psychological Association, 1971, 6, 619-620.

A critical incident survey was conducted to determine the types of behavioral expectations imposed upon retardates. Three environments were tapped: two state institutions, public school special education classes, and 23 day care centers. The I.Q.s of all groups were roughly comparable, ranging from 0-95. The behaviors fell into two broad categories: those due to lack of skills and abilities and those dealing with emotional or behavioral disturbances. Moving from the institutional, to day care centers, to special educational class groups, the incidents due to lack of skills or abilities gradually decreased while the emotional or behavioral disturbances increased. Possible interpretations for the results included: 1) a difference in actual behavior between the groups and 2) a difference in demands and expectations present in the environments. (AdBB)

Nihira, K., Foster, R., Shellhaus, M., & Leland, H. American Association on Mental Deficiency adaptive behavior scale 1975 revision, Washington, D.C.: AAMD, 1975.

The Adaptive Behavior Scale (ABS) is an assessment tool employed to measure a varied range of behaviors of the mentally retarded, emotionally impaired and developmentally disabled. Its primary purpose is to provide objective profiles of an individual's effectiveness in coping with the demands of the environment (i.e., adaptive behavior as defined by the American Association on Mental Deficiency). Developed to provide useful behavioral information and designed to be used in conjunction with other objective measures (I.Q. tests for example), the ABS provides a description of the way in which the individual maintains independence in daily living situations and how these behaviors approach the social expectations of a particular environment.

This test is composed of two parts. Part I assesses adaptive behaviors using a normal development paradigm as a measuring standard. Ten behavioral domains and 21 subdomains comprise this section. The ten domains assess independent functioning, physical development, economic activity, language development, number and time concepts, domestic activities, self directiveness, responsibility and socialization.

Part II assesses maladaptive behaviors related to personality and behavioral disorders and is comprised of 14 domains: violent and destructive behavior, antisocial behavior, rebellious behavior, untrustworthy behavior, withdrawal, stereotyped behavior and odd mannerisms, inappropriate interpersonal behavior, unacceptable vocal habits, unacceptable or eccentric habits, self-destructive behavior, hyperactive tendencies, sexually aberrant behavior, psychological disturbances, and the use of medication.

The administration of this test is accomplished by using an interview informant method. Easy to follow and score response sheets make the administration of the ABS relatively easy and highly reliable. Response scores are normalized to institutionalized mentally retarded persons ages 3-69. Response profiles are determined by using a simple scoring procedure and then matching the subject's scores with normalized data, thus adequately identifying both strengths and weaknesses of the subject in relation to chronological age peers as well as peers in similar environmental situations.

The authors suggest that ABS profiles can be used to facilitate proper placement in habilitative programs, to assess behavioral changes resulting from these programs, to compare the subject's behavior in a variety of situations as well as with different people, to provide a common information exchange system, and to assess the effectiveness of existing programs as well as to determine the need for developing new programs. (DK)

Nihira, K., Foster, R. & Spencer, L. Measurement of adaptive behavior: A descriptive system for mental retardates. American Journal of Orthopsychiatry, 1968, 38, 622-634.

Adaptive behavior is herein defined as: "...the effectiveness with which the individual (1) is able to maintain himself independently, and (2) the degree to which he satisfactorily meets the culturally-imposed demands of personal and social responsibility." The authors note that the traditional practice of using a unidimensional score to serve as a summary of adaptive behavior is fruitless, and they suggest a multivariate approach. They sampled existing measures of adaptive behavior, along with an informally-developed list of ward behaviors, and from this information produced a preliminary behavior checklist with 325 specific behaviors in 10 domains, This preliminary scale was used by 27 ward attendants to rate 307 retardates. The 10 behavioral domains were compared to determine how well they discriminated between and correlated with adaptive *behavior levels. They were also intercorrelations done between the 10 hypothesized behavioral domains. The authors note that the applications of specific weighting systems will yield measures for predicting specified criteria. (DK)*

Nihira, K. & Shellhaas, M. Study of adaptive behavior: Its rationale, method and implication in rehabilitation programs. Mental Retardation, 1970, 8, 11-16.

After briefly reviewing the development of the Adaptive Behavior Scale, the article addresses itself to the concept of adaption as "...a matching between the resources of an individual and the requirements of his environment." Several studies are reviewed: Nihira's studies on reasons for referral, 3 major dimensions of adaptive behavior, and Shellhaas's study of general tolerance. These studies are also related to rehabilitation. The authors state that knowledge of the retardate's resources and limitations plus the demands of specific environments are necessary for the development of effective rehabilitation programs. Knowledge of the environment in which the retardate may be placed has several advantages: 1) if specific environmental requirements are delineated, one may be able to predict the retardate's possible success in adapting to it, 2) more effective placement may be made (i.e., locating an environment tolerant of the retardate's limitations), 3) an individual may be specifically trained to the environmental demands, 4) prejudices and misconceptions about the mentally retarded can be isolated in particular environments, then studied, etc. (AdBB)

Northcote, W.N. The integration of young deaf children into ordinary educational programs. Exceptional children, 1971, 38, 29-32.

The labels "deaf" and "hard of hearing" are diagnostically and psychologically unsound as applied during two successive levels of pre-primary intervention: 1) infant education and home training (0-3 1/2 years) and 2) a more structured child centered educational program (3 1/2-6 years). Provision of early parent support and multiple service options including nursery school experience with hearing children enables certain youngsters to continue in mainstream educational programs. Criteria for the selection of candidates for realistic integration and a description of the roles of the diagnostic teacher and a variety of supportive specialists are delineated. (JL)

Oakland, T. Designing diagnostic-intervention programs: The non-biased assessment of minority children. Paper presented at the National planning conference on non-discriminatory assessment for handicapped children, Atlanta, January, 1976.

The paper presents five assessment models: the Medical Model, the Social System (deviance) Model, the Psychoeducational Process Model, the Task Analysis Model and the Pluralistic Model. The definition of abnormal and the assumptions and characteristics of each model were presented. A multi-model approach, which views the child from all five perspectives respectively, is presented as the best *way to develop a diagnostic-intervention program.*

The strength of the Medical Model is in treating organic dysfunction and the Social System Model is useful in assessing social role performance in a variety of social systems. The Psychoeducational Process model is potentially useful for making prognoses, and the Task Analysis model highlights educational programming. The Pluralistic model provides a basis for estimating learning potential in a manner which is not racially or culturally discriminatory. When each model is viewed as part of the ABCD configuration as stated in the paper, a coherent system for diagnosis and assessment can be designed. (SS)

Parness, E. Effects of experiences with loss and death among preschool children. Children Today, 1975, 4, 2-7.

The relationship between young children's experiences with death and the course of their later development has been a current research interest. Parness presents an overview of work relating to children's ideas about death. Examples of grievous situations are coupled with suggestions on how teachers and parents can help young children cope with loss.

> *If we can remember that what we have become accustomed to think of as "regressive" tendencies are really not chronic or pathological but frequently temporary and adaptive reactions of the child, and that such loss and mourning go on all through life, it becomes easier to allow the child and ourselves means of responding (p.7).*

Parness views adaptive behavior in the developmental sense, and strengthens the concept of events not occurring in isolation, but rather being perceived and treated as parts of a whole developmental process. (SS)

Parsons, T. & Fox, R.C. Illness, therapy and the modern urban American family. In Bell & Vogel (Eds.), The family. New York: Free Press, 1968, 377-390.

The relationship between illness and the family are to be understood only through a combination of sociological analysis of the structure of role-systems, with psycho-dynamic analysis of certain processes in personalities. Illness is regarded as both a psychological disturbance and a deviance from social role. The members of the American family, regardless of age, often use illness as an escape from the realities and responsibilities of their age. Illness is compared to the state of childhood in that both situations depend upon a stronger, more adequate, person to satisfy needs. The purpose of extra-familial care of the sick is to protect the family against disruptive effects of the illness of its members, to preserve the positive functions of the sick role as a mechanism of social control, and to facilitate the therapeutic process in a motivational sense. (PVAM)

Paulson, M.J. & Chaleff, A. Parent surrogate roles: A dynamic concept in understanding and treating abusive parents. Journal of Clinical Child Psychology, 1973, 2, 38-41.

The authors suggest that the presence of adequate mothering and parenting in general are essential for producing a mature personal-social growth and develop-

ment. Their paper is directed to the concept of a parent-surrogate model and it's role in treating and rehabilitating abusive parents. Group psychotherapy sessions for parents with potential or actual abuse problems were led by male-female cotherapists. The therapists, aged 50, acted as surrogate-parents to the group, whose average age was 26. This therapy was able to provide the first living experiences of acceptance from adults in the parent role for many of the people. (EV)

Pike, E.L. C.A.L.M. - A timely experiment in the prevention of child abuse. Journal of Clinical Child Psychology, 1973, 2, 43-46.

An awareness and concern about abuse against children prompted Mrs. H. Miles to form an experimental project called Child Abuse Listening Mediation (C.A.L.M.). It was designed to solicit voluntary response and involvement in seeking and accepting help. The project is based on the concept of "mothering" as defined by Dr. C. Henry Kempe - "the need to feel a sense of being worthy and cared about in a consistent, meaningful way." A staff of paid administrators and volunteers operate a 24 hour telephone and subsequent help service aimed at preventing abuse rather than treating it after the fact. (EV)

Pinkerton, C.A. A comparison of attendant's and resident's expectations of community living skills and behaviors. Unpublished masters thesis, Ohio State University, 1973.

Attendants and residents of a local institution were interviewed using a modified Adaptive Behavior Scale to determine their views of behaviors helpful to adjustment outside the institution. Of the choices given, attendants believed responsibility, occupation general, independent functioning, economic activity, language development, locomotion, and socialization to be of great help in community living. They also rated those behaviors restricted in the institution as potentially helpful in the community. Residents used a more restricted range in rating, suggesting that they do not have definite expectations for their behavior in the community (perhaps because of lack of community based experience). Both attendants and residents rated violent or sexually aberrant behavior as causing a great deal of trouble in the community. In general, there were few disagreements between residents and attendants. (AdBB)

Pratt, L. Family sturcture and effective health behavior: The energized family. Boston: Houghton Mifflin, 1976.

Explored in this book are the types of structures families need to function effectively in contemporary society, particularly related to one of the primary system's major functions, that of providing members with personal health care. Energized family is derived from the "stimulation and exchange occurring between family members who interact, both within the family and with outside groups and who generate ideas and learn to cope with pressures and demands of contemporary society." Energized refers to the "unleashing of people's potential" *in order to develop to their fullest capacities.*

The basic concepts of family structure examined are: (1) extent and variety of interaction among family members,(2) extent of family links to other social systems, (3) extent of active coping by family members, and (5) flexibility-rigidity of family role relationships. (CDL)

Proceedings: National training workshop on head start services to handicapped children, St. Louis, Missouri, May, 1973.

The document includes Head Start's approach to the mainstreaming of handicapped children as well as summaries of the training and technical assistance workshops presented at the conference. The following subjects were covered in the workshops: needs assessment, recruitment, social services, improving staff attitudes, regional office planning and full year programs, a training symposium, cooperative programs, the role of volunteer programs in training and demonstration programs in Seattle, St. Paul, Anchorage, Chapel Hill, Portage, and Athens. The common feature of all the projects was a concern with the child's function. Emphasis has been on looking at what the child can and cannot do.

The article provided a summary of Head Start project sites that have done work with preschool handicapped children. Each program has a unique design and provides for a variety of handicapping conditions. All the projects cited provided direct information on existing programs for preschool handicapped children. (SS)

Ramsdell, D.A. The psychology of the hard of hearing and deafened adult. In H. Davis and S.R. Silverman (Eds.) Hearing and deafness, third edition, New York: Holt-Rinehart-Winston, 1970, 435-446.

This chapter presents a sketch of the psychological problems imposed by deafness. For example, the inability to hear the sound of a human voice and to communicate is very isolating, and acquired deafness is often accompanied by depression and uneasiness in the environment. On three "psychological levels of hearing", comprehension of speech, cue to danger, and audition, a deaf individual is left disabled. With former processes of negotiation in the environment missing, there is severe psychological stress, and the person becomes "at-risk" in that a depressive disorder may develop.

The psychological difficulties that the deaf child might develop were not explored in this chapter. The differences between adjustment of those with congenital deafness and those with acquired deafness is proposed as a valuable area to investigate. In both children and adults, psychological counseling is considered helpful in aiding the individual to adapt and/or cope with the effects of isolation and helplessness that might be an aspect of the presenting state. (DK/SS)

Rapier, J., Adelson, R., Carey, R. & Croke, K. Changes in children's attitudes toward the physically handicapped. *Exceptional Children*, 1972, *39*, 219-223.

The influence of degree of interaction between handicapped and non-handicapped children upon the attitudes of non-handicapped children toward the handicapped was studied. The influence of sex, age and maturity upon acceptance was also studied. The findings indicate that non-handicapped children's attitudes can be changed to be more positive toward the handicapped. It is, therefore, important to provide favorable interaction between handicapped and non-handicapped children in order that the non-handicapped can develop a more positive and realistic perception of the handicapped. Without this mediation, non-handicapped children can develop inaccurate perceptions which continue throughout life. (PVAM)

Rheingold, H.L. The development of social behavior in the human infant. *Monographs of the Society for Research in Child Development*, 1966, *31*, 1-17.

Rheingold presents four principles in her discussion of social behavior: (1) the infant is responsive to stimuli arising from the social object; (2) the infant is active in initiating social contact; (3) the infant's social behavior is modified by the responses of others to him; and (4) the infant's social responses modify the behavior of others in his group. The author suggests that these principles provide a framework for classifying and organizing knowledge of the development of social behavior in man and other mammalian species. (ABP)

Rheingold, H.L. and Eckerman, Co. The infant separates himself from his mother. In F. Rebelsky & L. Dorman (Eds.) *Child development and behavior* (2nd ed.). New York: Alfred A. Knopf, 1973, 149-161.

This article calls attention to separation behavior in man and animal, and examines its biological and psychological consequences in light of current principles of behavior theory. Research that relates to separation is reviewed and discussed. Separation is considered to be biologically rooted functioning for the preservation of the individual and the species. It is suggested that separation provides increased opportunities for learning. (TZC)

Rhodes, W.C. *The disturbing child: A problem of ecological management*. Paper presented at the fifteenth annual statewide conference, New Jersey Association for mental health, June 6, 1966.

The author suggests that some of the critical "child problems" relate to reciprocal conditions residing both in the child and the environment. This alternative view of disturbance suggests the nucleus of the problem lies in the content of behavior prohibitions and sanctions in the culture.

> Any behavior which departs significantly from this lore upsets those who have carefully patterned their behavior according to cultural specifications. The subsequent agitated exchange

> between culture violator and cultural bearer creates a disturbance in the environment. It is this reciprocal product which engages attention and leads to subsequent action (P. 1).

The child judged most disturbed is the one who violates a larger number of behavioral codes, and/or some of the most central codes. The intensity of reaction may be related to the observing individual's degree of difficulty in controlling and accepting comparable tendencies in himself.

Rhodes suggests alternative ways to view and adapt to diagnosis, behavioral codes of the culture and management or mediation, with specific references to a few critical mediative projects. The arguments concerning the ecological management of a difficult situation are most persuasive. (NAC)

Richardson, S. Ecology of malnutrition: Non nutritional factors influencing intellectual and behavioral development. Nutrition, the nervous system and behavior, Scientific publication No. 251, Pan American Health Organization. Undated publication.

The article presents an ecological approach to measuring and identifying the factors that influence malnourished children's functioning. Stressed is the need for full and systematic consideration of factors in addition to nutrition influencing functional development, and the need for research that incorporates ecological factors into research design, data gathering and analysis. Studies that use this needed approach are reviewed in the article. Given consideration are: 1) the component of identification of ecological factors influencing functional development; 2) the translation of the general factors into a conceptual framework that allows data-collection and 3) the process of data analysis.

The article provides a list of the environmental factors that have an influence on the functioning of the child. Behavior is one measurable index of child's functioning. If one considers the variables that could possibly influence the onset of specified behaviors under each of the handicapping conditions, the complexity of adaptive behavior is given some organization. Further research in the area and schema can be systematically generated from an ecological model. (SS)

Richardson, S. Psychosocial factors contributing to deprivation in child development. In S. Sapir & A. Nitztburg (Eds.) Children with learning problems. New York: Brunner/Mazel, 1973, 200-203.

The author points out the inherent value judgment in labeling a person "deprived"; whomever decides a particular case should be described as one of "deprivation" does so from a certain position in a given society in terms of the values and positions held therein.

The author proposes two ways that these judgments of deprivation are made: 1) whether or not a child lives up to expectations and demands common to his environment and, 2) whether or not he has received the necessary experiences to prepare him to meet these expectations.

The author also feels that mental subnormality occurs more frequently in lower-class families primarily because of the lack of experiences to prepare the child to meet expectations of the society. It is obvious that more research on the concept of deprivation is needed to define the experiences necessary to enable children to meet the demands of the society(s) in which they live. (NAC)

Robinson, H. & Robinson, N.M. The Mentally retarded child: A psychological approach. New York: McGraw-Hill, 1965.

This classic textbook provides a varied and broad-based approach to understanding the mentally retarded child, primarily from a psychological perspective. The framework is both theoretical and empirical and is based extensively on research. The book lacks any extensive references to young children or to family systems, instead leans heavily to psychodiagnosis and treatment. (NAC)

Rosar, V.W. Perthes and parents. Springfield, Illinois: Charles C. Thomas, 1963.

This book is authored by a mother who awoke one morning to discover that her child had Perthes disease. Divided into seven chapters, the book describes Perthes disease in terms that lay individuals would be able to comprehend, covering such factors as age of onset, prevention, symptoms, surgery and the recovery process. Financial aspects of long term hospitalization are included. Psychological and decision making problems faced by the parents and the decision between home or hospital care for the child with Perthes disease are discussed, given some of the positive and negative aspects of both. The emotional health of families, most having had an immobile child at home, are discussed in terms of problems. The final chapter explains the factors which accompany the child's relearning to walk and establishing contact with his physical environment. The book concludes with a selected reading list. Some of the material presented will be useful to the parents of any handicapped child. (NAC)

Rosen, L. Selected aspects in the development of the mother's understanding of her mentally retarded child. American Journal of Mental Deficiency, 1955, 59, 522-528.

Mothers reacted to their mentally retarded children by: 1) being able to admit that the child was retarded, 2) no longer looking for a miraculous cure, and 3) trying to act constructively for the child's present and future welfare. Once the mother observes the possibility of retardation, understanding of the problem is encountered by phases: awareness, recognition, seeking for causes, seeking for solutions, and acceptance. Mothers felt that the kindness and understanding of school teachers was most helpful toward understanding their children. (PVAM)

Ross, A.O. Psychological aspects of learning disabilities and reading disorders. New York: McGraw-Hill, 1976.

Solidly grounded in research, the book covers many different approaches to learning disabilities: attentional theories, brain dysfunction hypotheses, hyperactivity, cognitive and behavioral theories and the manifestations of these, particularly in programs.

The author finds one common thread amongst the multifacited differences in presenting state of individuals and environments. He calls this unifying difficulty "the inability to sustain selective attention", and proposes it as *a "developmental delay" and not a deficit. The conclusions are straightforward, brief, and common-sensical. (NAC)*

Ruttenberg, B. & Wolf, E.G. Evaluating the communications of the autistic child. Journal of Speech and Hearing Disorders, 1967, 32, 314-324.

This article presents three scales used in the evaluation/diagnosis of the communication of an autistic child, which can range from no communication and/or interpersonal relationships to "empty speech" characterized by echolalic vocalizations. The author feels that the longer the child goes without some type of mediation of communication skills, the harder it will be to establish communication. In studying conditions necessary to develop speech and language, Kanner's six criteria of infantile autism were used. From these criteria, the scales assess the (1) levels of the nature and degree of relationships of the child to adults, (2) the autistic child's level of communication with others, verbal or non-verbal, and (3) the function of the child's active communication. Each of the three scales have ten levels to show progression of the child, and the authors feel they have great diagnostic and prognostic value.

Analysis of a child's communication without reciprocal parental information does not fully elaborate on the individual's communication in the context of his family. This is necessary for total assessment. (SS/DK)

Rutter, M. Concepts of autism: A review of research. Journal of Child Psychology and Psychiatry, 1968, 9, 1025.

The body of knowledge concerning infantile autism only allows tentative conclusions to be reached concerning the etiology. Infantile autism, according to the author, has nothing to do with schizophrenia and is not primarily characterized as a disorder of social relationships. Research suggests that mental subnormality, psychogenic factors, or faulty conditioning are not primary factors in the etiology, but may influence the development of secondary handicaps. In some cases organic brain damage is a primary factor in the development of autism but in many cases no demonstrable evidence of brain damage can be found. Controversy still remains when discussing abnormalities in physiological arousal and how this effects the development of autism. Studies of chromosome abnormalities as the basis of autism have been inconclusive. The author does state that a genetic basis might still be found and further research is recommended.

The author found the level of I.Q. and degree of language impairment to be the two most important criteria related to prognosis. One plausible hypothesis suggested in this article is that the primary compromising condition in infantile autism may be a language or coding problem. Many of the problems exhibited by autistic children are in terms of cognitive and perceptual defects. The author believes that the evidence points towards the basic problem as the comprehension of language and in the utilization and organization of perceptions. Further research in these areas seems to be warranted. (JB)

Rutter, M. & Bartak, L. Causes of infantile autism: Some considerations from recent research. Journal of Autism and Childhood Schizophrenia. 1971, 1, 20-32.

A number of research studies were reviewed concerning the differing views on the etiology of infantile autism. In a review of the literature several independent studies state that there is a deficiency in language comprehension and in the ability to process symbolic or sequenced information. There is a suggestion that the cognitive deficit is the primary handicap of autism and social or behavioral abnormalities are secondary handicaps, but the existing evidence is incomplete. At this point it is uncertain what extent a cognitive language deficit plays in the role of autism and whether or not there is an interactive component between the individual and the family environment. A higher number of convulsive seizure disorders found in autistic children with severe intellectual retardation suggest the disorder is caused by some type of organic brain dysfunction. Findings from studies done on autistic children with normal I.Q. provide less evidence for structural brain pathology. The authors of this article state that in certain cases of autism, a maturational disorder or a genetic dysfunction might cause the disorder. In short, the prevailing thinking regarding etiological classification is still tentative and may be situation-specific. (JB)

Sander, L.W. Issues in early mother-child interaction. Journal of the American Academy of Child Psychiatry, 1962, 9, 103-123.

This naturalistic and conceptually sophisticated study presents the researcher's modes of organizing the complex longitudinal descriptive data of early development in respect to one of its facets, namely, that of the mother-child interaction.

Adaptive development is seen as the result of the proper negotiation of developmental issues confronting the mother-child dyad. The developmental issues provided a series of time segments for the division and organization of the interactional data and a basis for the comparison of dyads. Issues and time segments for the first eighteen months were: (1) period of initial adaptation, (2) period of reciprocal exchange, (3) period of early directed activity of the infant, (4) period of focalization on mother, and (5) period of self-assertion. (TZC)

Sander, L.W., Stechler, G., Burns, P. & Julice, H. Early mother-infant interaction and 24-hour patterns of activity and sleep. American Academy of Child Psychiatry Journal, 1970, 9, 103-123.

This research is directed at documenting earliest mother-infant interactional behavior, as well as searching for a paradigm for viewing the constraints to interaction imposed by vital biological determinants concerned with regulation and adaptation. One of the earliest accomplishments in the neonate-caretaker interaction may be that of synchronization of macroscopic periodicities, existing in various infant functional systems with corresponding regularities in features of the caretaking environment. The basic design of this study compared interaction in 3 infant-caretaker environments over the first two months of life. Sources of periodicity involved in temporal organization of infant functions are presented and discussed. (ABP)

Sanders, R.W. Resistance to dealing with parents of battered children. Pediatrics, 1972, 50, 853-857.

Sanders traces the awareness of the "battered child syndrome" from early times to the present. According to the author, the time it has taken the medical profession to become involved in this problem may be due in part to the discomfort of working with these families individually. He gives specific case studies to support this notion. It seems important to: 1) recognize our own feelings toward the subject of child abuse, 2) be open and honest with families and 3) avoid being judgmental and accusative towards the families. Appropriate ways to deal with families at the time a report of suspected abuse is made are discussed. (EV)

Sandler, A.M. "Aspects of passivity and ego development in the blind infant. Psychoanalytic Study of the Child, 1963, 18, 343-360.

According to the author, it appears that many blind children are abnormally content to be left alone and to indulge in repetitive self-stimulating movements or stereotyped nonadaptive activities. There seems to be a constant pull back toward self-centeredness, a limiting of interest in the outside world, and movements toward experiencing bodily sensations.

The author suggests that blind and sighted children follow a roughly parallel course of development until about the 12th to 16th week after birth. At this time, during transition from the first oral phase (passive) to the second oral phase (active), the divergence begins because hand and sight become very important to the child initiating activity in the outside world.

The author contends that with maternal support and stimulation the child can become interested in outside stimuli. Attention to such stimuli facilitate hand-eye coordination and concomitantly result in stronger ego-development. (AM)

Sangrund, A., Gaines, R.W. & Green, A.H. Child abuse and mental retardation: A problem of cause and effect. American Journal of Mental Deficiency, 1974, 79, 327-330.

The authors hypothesized that abused children would manifest greater cognitive impairment than non-abused or neglected/not abused children. One hundred and 20 children were tested by standard I.Q. measures and interviewed and the data was analyzed. The children were divided into three groups: 1) verified abuse cases, 2) verified neglected but not abused children and 3) non-abused children. While more children in the abused group had I.Q.s under 70 than in the non-abused group (almost ten times as many), the incidence of below 70 scores in the neglected group was almost the same as the abused group. There is no resolution as to whether cognitive impairment antedated abuse and neglect or is one of its effects. The correlation between abuse, neglect or non-abuse and I.Q. scores does not determine a cause-effect relationship. The study does, however, point out a possible relationship that is indigenous to the primary system. (EV)

Sapir, S.G. & Nitzburg, A.C. (Eds.) Children with learning problems. New York: Brunner/Mazel, 1973.

A valuable collection of 43 reprinted articles primarily from a developmental-interactionist perspective. Both recent and classical articles dealing with general developmental issues and specific dysfunctions are presented. There are articles by both Freuds, Erickson, Werner, Luria, Hebb and Chomsky, which establish a referent for later works by experts in the fields of learning disorders and psychology. Particular attention is given to the issues and methods of both diagnosis and assessment. The authors provide a valuable integrating introduction to each section. (TZC/NAC)

Sawisch, L.P. & Fitzgerald, H.E. Shed preconceived ideas...look, listen...a response to Sheridan's position on the spontaneous play of handicapped children. Accepted for publication in Child: Care, Health and Development, 1976.

Sheridan's article on the importance of spontaneous play for learning in "handicapped children" is criticized by the authors for reflecting a negative evaluation of disability states. Contemporary perspectives of "handicapment", placing a negative value on the condition, fail to consider the social and cultural milieu under which the disability is viewed. The authors stress that an atmosphere must be created that breaks down the historical and current view of a handicap as being a curse, so that learned helplessness and self-fulfilling prophecies cannot be nurtured.

In the classic illustration of learned helplessness, "animals who are placed in a situation where they cannot escape failure or punishment, soon extinguish adaptive or avoidance behavior". Similarly, a child can learn helplessness when placed in a social and cultural environment that does not expect the child to exercise human capabilities. When no expectations for adaptation exist for the child with a compromised condition, the chance that the child will develop the capability of entering increasingly complex systems is minimal.

> *...it should be obvious that if any child is forced to exist in a social environment that as a matter of course devalues the child's physical form and expects lower levels of competence, that child will have problems developing adequate social skills, assuming that motivation remained to develop such skills (p. 9).*

(SS)

Scarr-Salapatek, S. An evolutionary perspective on infant intelligence: Species patterns and individual variations. In M. Lewis (Ed.) Origins of intelligence. New York: Plenum Press, 1976, 165-197.

This article presents four hypotheses with supporting statements concerning the nature and evolution of human infant intelligence: 1) infant intelligence evolved earlier than later forms of intelligent behavior and remains unchanged from the time that hominids emerged; 2) selection pressures resulting in present patterns of sensorimotor intelligence act both on infant and caretaker behavior;

3) infant intelligence is phenotypically less variable than later intelligent behavior; and 4) phenotypic development of infant intelligence is governed both by genetic preadaption and by developmental adaptation to human physical and caretaking environments.

The definition of sensorimotor intelligence offered by the author is one of preadapted responsiveness to certain learning opportunities. Although the full development of sensorimotor skills depends on the infants' encountering appropriate learning opportunities, the author proposes that most human environments are rich in the physical and social stimuli infant intelligence requires. There are differences in rate of acquisition of sensorimotor intelligence, but these variations, not yet assignable to genetic or environmental causes, are relatively unimportant variations. (CDL)

Schaer, H.F. & Crump, W.D. Teacher involvement and early identification of children with learning disabilities. Journal of Learning Disabilities, 1976, 9, 91-96.

The authors, after briefly reviewing seventeen projects, conclude that research on early identification of learning disabilities shows little consensus with regard to feasibility. A review of programs geared to early identification and intervention indicates mainly inconclusive results or no follow-up and evaluation at all. A few of the projects reviewed by the authors include: Project Genesis; Tulsa Public Schools; Project Child; Webster Groves, Mo,; and Union Township Board of Education.

Rather than extensive screening programs, the teacher as a key person in early identification and diagnosis is stressed. Teacher observations, together with continuous daily evaluation, seem to be the best course available. A child identified as "at-risk" might profit more from a flexible, varied and challenging program early in life--a program in which he could learn and explore under the guidance of an experienced teacher--rather than being exposed to many new approaches and interventions that either have not proven successful, may be geared to a particular region only, and/or may not be the total involvement that the child requires to learn effectively and successfully. (NAC)

Schiefelbusch, R.L. & Lloyd, L.L. (Eds.) Language perspectives-acquisition retardation and intervention. Baltimore: University Park Press, 1974.

A conference was held to bring together theorists, researchers and language program designers to discuss current knowledge in the area of normal language acquisition and development, language delay and disorder, mental retardation and language remediation. The editors of this book compiled the information presented at this conference into seven major areas of research and clinical design: 1) infant reception, 2) early concept development as it pertains to language acquisition, 3) receptive language development, 4) relationships between receptive and expressive language, 5) non-speech communication, 6) early language intervention, and 7) language intervention for the mentally retarded.

Each area of discussion provides either current research development and/or the theoretical positions taken by many of the country's leading authorities. Each is concluded by a summary paper which serves to highlight and contrast the positions taken by the contributers. The book covers the entire normal and deviant development of language and concludes with intervention strategies which are based upon the preceding research and theoretical data. Of special interest is the emphasis placed upon the role of development of receptive language. (DK)

Schlesinger, H.S. & Meadow, K.P. Sound and sign: Childhood deafness and mental health. Berkeley, California: University of California Press, 1972.

This book attempts to apply a developmental approach to the study and treatment of deafness. The first few chapters present a theoretical framework for viewing the development of deaf individuals through the life cycle. Results of research studies related to developmental aspects of deafness are presented, including: a study of the linguistic development of four young deaf children exposed to both oral and manual communication within their families; a study of mother-child interaction in families with deaf and with hearing children; and a study comparing the functioning of deaf children with deaf parents and with hearing parents in residential and day schools. Evidence of the increased incidence of behavioral problems in a deaf school population is presented; direct and indirect treatment of mental health problems in a deaf population through therapy or consultation is discussed. The final chapter describes a suggested model for a comprehensive program of psychiatry for a deaf community. (ABP)

Schoggen, M. & Schoggen, P. Environmental forces in the home lives of three-year-old children in three population subgroups. DARCEE reports. Nashville, Tennessee, George Peabody College for Teachers, 1971.

This research was designed to create a library of theoretically neutral observational data on experiences in the lives of three-year old children from different socioeconomic backgrounds, and to analyze specimen records. The records were analyzed: 1) to describe and quantify the kinds of active environmental inputs received by the children, 2) to assess relationships between home experiences and socioeconomic status, 3) to explore the characteristics of the children's social environment in disadvantaged homes, and 4) to relate findings to certain data in the research literature on child rearing.

Narrative behavioral descriptions of eight low-income urban, eight low-income rural, and eight middle-income urban children provide the basic observational data recorded as "environmental force units" (units of behavior of agents acting with respect to the child). Child behavior is coded and described according to a set of 26 variables. Similarities and differences across groups on some dimensions of the variables are presented, indicating that there are wide individual differences, some important similarities across the groups, and some interesting intergroup differences in orientation to child-rearing.

The methology and design of the study provides a tool to analyze the home system of the young "at-risk" child in terms of concrete transactions. The environmental force units analysis has direct application to the socio-ecological model of adaptive behavior, as it is a tool to observe aspects of the model in operation, and takes into account both the context and possible noncontiguous aspects of behavior. Two variables measured in the environmental force units that are particularly relevent to measuring components of the child's primary system are:

1) "congruency", which indicates the extent to which a goal of an agent relating to a child becomes the child's goal for himself, and 2) "goal classes", which is a statement of the goal of the agent for the child in concrete, behavioral terms.

Naturalistic observation in the homes of "at-risk" children is needed to see what relation, if any, specific disabilities have to the environmental inputs received by the child. Comparisons between children with the same disability, across the 26 variables, will document and specify the variability in the measurement of environmental force units. (SS)

Schopler, E. & Reichler, R.J. (Eds.) Psychopathology and child development: Research and treatment. New York: Plenum Press, 1976.

A compelling collection of original cross-disciplinary articles on various aspects of normal and abnormal development. Particularly outstanding are the biologically based articles by Rosenzweig, de Myer, Chess, and Campbell. Elkind's article on a cognitivist view of psychopathology, and Menyuk's article on language development are most noteworthy. (TZC)

Schram, B.J. Case studies of two down's syndrome children functioning in a Montessori environment. Unpublished master's thesis, University of Dayton, April 1974.

The author believes that retarded children need to experience inter-relationships with normal children in self-choosing environments in order to develop normal behavior patterns and encourage better growth in language and overall total growth and development. Two Down's syndrome ("mongoloid") girls functioning in a Montessori environment were studied and a comparison of their growth with expected standards for Down's syndrome children was made. Piaget's studies are used as a guide to determine normal sequence of growth and development in children. The author suggests that such an approach will have to include raised social and academic expectations along with instruction in independence and self-direction. (JL)

Scott, R.A. The socialization of blind children. In D. Goslin (Ed.) Handbook of socialization theory and research. Chicago: Rand/McNally, 1969.

This article deals with the adverse effects a visual impairment has on socialization. According to the author, early socialization processes are hindered in such areas as: development of language, ability to communicate meaningfully with others, emergence of a clear body image, role learning, imitation, and participation in interpersonal relationships. The author focuses on the impact a visual impairment has upon the emergence of a self-concept. The author also discusses: mother-child relationship and how it is effected by blindness, the effect of blindness on intelligence, and the effect of blindness on the development of peer friendships and play behavior.

Scott includes that the most notable problems of the blind child are:

1) egocentricity, 2) verbal unreliability, and 3) a confusion between self and others. These are the most obvious differences; other, more subtle, discrepancies probably exist and should be systematically researched. (AM)

Seitz, S. & Marcus, S. Mother-child interactions: A foundation for language development. Exceptional Children, 1976, 42, 445-449.

Effective mother-child communication is "at-risk" when the child is developmentally delayed or disabled in language. Initiation and reciprocation of messages is especially difficult for the mother and child when clear cues of developing verbal skills are not present. In a case study of a 20 month old, multiply-handicapped, hearing-impaired female and her parents, a method of improving communication is outlined. The child was enrolled in a 20 week program in which the parents were in a guided play program with normal and disabled children. Participation, observation, and discussions of mother-child communication increased positive responding between parent and child, and reduced mother's directive behavior.

This program is an example of an attempt to improve communication by direct aid to both the parent and the child. It is a move toward addressing a part of the system of the child that must be considered if increasingly complex behavior is to occur. (SS)

Sheehy, G. Passages: The predictable crises of adult life. E.P. Dutton, 1976.

Sheehy describes milestones that mark each individual's lifetime: "Pulling Up Roots", "The Trying Twenties", "Passage to the Thirties" and "The Deadline Decade--Setting Off on the Middle Passage." She maintains that every one comes to these milestones and must pass beyond them, without remaining at an impass, at a dead end. Progress through the crises of adult life is a process that involves backtracking, starting all over, not becoming "locked in"--a point at which you don't even know what you don't want to do or who you don't want to be. Sheehy states that "The American Dream" propels people against human development--one is "locked in" in a one track move toward power. In the book, case studies of couples are used to bolster her view that "the predictable crises of life seem to predicate that no part of the personality can be ignored without penalties, sometimes as severe as complete nervous collapse." Each emerging aspect of the personality whether in marriage, work or family life, should be developed and not ignored if one is going to achieve an integrated personality.

Passages which occur in childhood are not just the precursers of adult passages. Milestones of childhood are analogous to Erickson's eight stages of development. A child, especially a disabled child, can get "locked in", remain at an impass, be at a dead end, in both an actual physical (no locomotion skills) and psychological ("crippled" boy) sense. Crises of the "at-risk" child's life are not perceived as predictable and the child's development is bound to the context in which significant others view them. Total assessment would consider how realistic any mediation was in the light of the family members development and state in life. (SS)

Sheperd, B.D. Parent potential. The Volta Review, 75, 220-224, 1973.

This review emphasizes the wishes and aspirations held by parents for their handicapped children. The following wishes and aspirations were noted: 1) to eliminate completely the child's disability; 2) to help the child lead a happy and fulfilling life; 3) to help the child achieve the greatest level of independence possible; and 4) to help the child feel a sense of achievement throughout his life. The importance of training the child in an area which can help him become independent and self-sufficient is emphasized. The skill area(s) must be one in which he can practice or the stresses of being handicapped will be intensified. (PVAM)

Silver, L.B., Dublin, C.C. & Lourie, R.S. Child abuse syndrome: The gray areas in establishing a diagnosis. Pediatrics, 1969, 44. 594-600.

The authors discuss the surveys that have been made to estimate the extent of child abuse in the U.S. and recognize the difficulty that physicians may have in reporting such cases. The child abuse laws are intended to minimize this difficulty and decrease the resistance to reporting suspected cases. It is then up to the courts to decide the appropriate action.

The authors conducted a retrospective review of suspected child abuse cases reported at Children's Hospital in the District of Columbia to explore these "gray areas" that make it difficult to definitely establish or reject a diagnosis of abuse. Several types of cases fall into these gray areas: 1) the physician's attitudes or feelings about abuse or about a particular family may cloud his decision, 2) the physician may give the family the benefit of the doubt if he isn't positive that abuse has occurred, 3) he may have difficulty in placing responsibility for the abusive act (the parents may blame another child for the injury), 4) he may feel a need to respect parental privilege to punish children or 5) wonder if a person is responsible for his actions when under the influence of alcohol. In summary, the authors feel that, based on the hospital reports, doctors may find it difficult to report abuse or suspected abuse cases due to their own personal feelings about children and the families and through a misunderstanding of the Child Abuse Laws and the physician's role and responsibility in relation to them. (EV)

Silver, L.B., Dublin, C.C. & Lourie R.S. Does violence breed violence? American Journal of Psychiatry, 1969, 126.

The authors investigate the probability that violence breeds violence by studying 34 cases of violence against children documented at Children's Hospital, the Washington D.C. Police Department and the D.C. Department of Public Welfare. The case studies covered three generation families with respect to the question, How do children resolve a violent childhood? Results indicate the following: 1) Some children tended to identify with the aggressor of the violence and developed poor impulse control, a great need to express aggression physically and to have many unmet dependency needs. 2) Another group of children tended to identify with the victim and established a pattern of inviting harm upon themselves. (EV)

Simeonsson, R.S. & Weigernik, R. Accountability: A dilemma in infant intervention. Exceptional Children, 1975, 474-481.

Early intervention with handicapped youngsters has been difficult to evaluate, compare and replicate because workers in the field have failed to specify their objectives operationally. Attention to accountability has recently led to increased funding, parental investment, and professional responsibility so that evalution may become more systematic.

The authors see two parameters of accountability, efficiency and effectiveness, which, if implemented in intervention, may resolve the present dilemma. They take a practical position in terms of assessing development, seeing more importance in the evaluation of a child than on the rigid administration of a test. To date, a number of scales exist that can be modified to serve the purpose of effectively evaluating handicapped children. They also stress that cognitive development should be seen and assessed as a process and that the best way to evaluate is by observation. Any aspect of evaluation is strongly influenced by the child's state at the time of assessment.

Efficiency is the result or product compared with the cost. To be efficient a program must state goals and a measure of progress in a certain time span relative to what is expected. This would significantly increase the reliability of comparative analysis. The authors believe that a nationwide, systematic basis for organizing data functionally related to programmatic intervention needs to be proposed. Evaluation could thus be longitudinal to provide the base for effective and efficient analysis. (AM)

Snow, R.E. Consequences for instruction: The state of the art of individualizing. Paper presented at the university of Minnesota, 1975.

Since principles that govern the match of learner and instructional environment are not known, research is focused on exploring the relationship between student attributes that predict response to instruction. "Aptitude-treatment-interaction" (ATI) is the perspective under which Snow reviews problems and possibilities associated with mainstreaming special education children. ATI is a scheme for differential predictions of an individual child's success under different instructional treatments. When mainstreaming is considered historically, Snow concludes, "that traditional streaming plans offer no real adaptation to individual differences at all, and should be abolished." Attention must be directed toward improving learning for students, and this is not accomplished by simply reducing the pace of instruction. ATI research suggests that mainstreaming "with the classification scheme based on multiple aptitudes, including personality and style variables instead of general ability alone,...would not carry the negative stigma of streaming" (p. 10).

To assure equal educational opportunity to all children, individualization has to be done on many levels, with child-teacher specific treatments. Evaluation of the effectiveness of the individualized program provides a reading on the success of the treatment, and ATI also permits analysis of individual differences. Programs and treatments which are constructed for a particular type of disability need be especially attuned to these concerns. Thoughtless, indiscriminate mainstreaming is not individualized instruction and can very well be detrimental to a child's education. (SS)

Spinetta, J.J. & Rigler, D. The child-abusing parent: A psychological review. Psychology Bulletin, 1972, 77, 296-304.

The authors review the professional opinions of this decade regarding the psychological characteristics of abusing parents. They reveal that an abusing parent was himself raised with some degree of deprivation, bringing to his parenting role some mistaken notions of child-rearing, looking to his child for satisfaction of his own emotional needs and expressing his aggressive impulses too frequently. Attempts to categorize the characteristics are also reported.

The authors state that certain socioeconomic factors add stress to the family but are not themselves causes of child abuse. The abusive parents seem to have some underlying personality weakness first, since the great majority of "deprived" families don't abuse their children. Multiproblem families are the result of the interplay of mental, physical and emotional stresses on the family. (EV)

Spitz, R.A. The first year of life: A psychoanalytic study of normal and deviant development of object relations. New York: International Universities Press, 1965.

Based upon his classical research on the effects of maternal deprivation in hospitalized infants, and his more recent experimental research with infants, Spitz details his psychoanalytic theory of the social bases of human development. In addition to the value of his research findings, Spitz' developmental schema and his discussions of the importance of attachment and communication are of particular salience. (TZC)

Spitz, R.A. The adaptive viewpoint: Its role in autism and child psychiatry. Journal of Autism and Childhood Schizophrenia. 1971, 1, 239-245.

The significance of the adaptive viewpoint in terms of the psychogenic diseases occurring in infancy is discussed. If the adaptive processes are not interrupted, it is felt a coherent psychic system will develop with the ego being the major adaptive organ. A psychiatric problem infers that a psyche is present: not the case in an infant who's psyche has not yet developed. Behavior disorders at this early period in life can at best be described as an impairment of the innate potentiality to develop a psychic system. Therefore, psychogenic disturbances of the first year of life can be seen as failures in the process of adaptation. Behavioral disorders are consequently seen as indicators of an underlying disease, but not a disease. Treatment will be directed towards etiology.

Age-specific adaptive criteria need to be developed so that this information can determine diagnostic exploration and therapy, replacing current psychiatric approaches. If the adaptive viewpoint is accepted, then a new diagnostic, prognostic and therapeutic approach is necessary. (JB)

Spradlin, J.E. Environmental factors and the language development of retarded children. In S. Rosenberg & J.H. Koplin (Eds.) Developments in applied psycholinguistic research, New York: The Macmillan Co., 1968.

One common phenomenon among the population of persons considered to be retarded is a high frequency of speech and language disorders. The author points out that deviant speech and language may contribute to the diagnosis of mental retardation since most I.Q. tests rely heavily on verbal performance.

Looking specifically at institutionalized retardates, the author discusses the detrimental environmental factors which contribute to and maintain these inadequate verbal behaviors. Studies discussed support the contention that institutionalization has a negative effect on verbal behavior. The author emphasizes ways in which institutions for the mentally retarded can develop better environments for language stimulation as well as develop more positive habilitative approaches. Toward this end, specific operant conditioning techniques are discussed. Examples for implementing each approach are described. In addition, specific recommendations are made for changing the social and physical environment within the confines of the institution. (DK)

Spreen, O. Language functions in mental retardation: A review. Part I language development, types of retardation and intelligence level. American Journal of Mental Deficiencies, 1964-65, 69, 482-492.

The author surveyed research literature dealing with the incidence, cause, and consequences of language deficits in the mentally retarded. The relationship between intelligence and language development was investigated by looking at onset of language, over-all communication performance, speech and sound development, vocabulary, mean sentence length, and correlating these variables with intelligence. Correlations ranged from high to low--a function of both the assessment instrument and the type of communication skill investigated. The author concluded that language and intelligence are independent of each other, with respect to deficits in mentally retarded.

Comparisons were made between types of speech and language disorders in different groups of mentally retarded individuals. Down's Syndrome and familial retardates did not demonstrate significant language differences, and the notion that there is a high incidence of stuttering among the Down's group was not demonstrated. Brain damaged retardates have more difficulty in auditory discrimination and comprehension, but showed no difference from non-brain damaged individuals in vocabulary range. Studies supported the idea that institutionalized retardates had lower language function than non-institutionalized individuals, and there was a correlation between poor performance and lengthy confinement.

Conclusive knowledge in the area of language impairments does not exist, and problems related to the definitional components of language, mental retardation, the sub-groups of retardates, as well as psychometric problems, make research in this area difficult. Environmental factors influencing language development and usage are not well understood, and would seem to be important areas in need of further research investigation. (SS/DK)

Spreen, O. *Language functions in mental retardation: A review. Part II, language in higher level performance.* *American Journal of Mental deficiencies*, 1965-66, *70*, 351-362.

Research studies to assess if deviant language skills of retarded, deaf, aphasic and the brain-damaged population interfered with learning are reported in this review. The cited studies support the idea that conceptual learning is facilitated by language systems and suggest that teaching language disabled individuals would be more effective if the prerequisite of verbal mediation was eliminated or reduced. Information gathered from research is not conclusive, and it is not yet known how education avoiding verbal mediation would improve learning. (SS/DK)

Stern, D.N. A micro-analysis of mother-infant interaction. *The Journal of the American Academy of Child Psychiatry*, 1971, *10*, 401-517.

Based upon a frame by frame film analysis of a mother interacting with three month old twins individually, the patterned regulation of social contact is explicated. Periodic rhythms of approach and withdrawal are seen to be present. The infants control these rhythms through the use of gaze, head control and postural control. (TZC)

Stern, D.N. The goal and structure of mother-infant play. *The Journal of the American Academy of Child Psychiatry*, 1974, *13*, 402-418.

The rhythmic structure and characteristics of at home play episodes between mother and infant are discussed and analyzed. Twenty-four dyads were analyzed using frame by frame video recordings. The necessity for the mother to control the level of stimulation, and the techniques she uses are described (TZC)

Stone, J.L., Smith, H.T. & Murphy L.B. (Eds.) *The competent infant*. New York: Basic Books, 1973.

In one volume the editors have compiled a historically valuable and instructive collection of original, theoretical, researched and clinical papers and monographs. Of the two hundred and two papers presented, many are thought of as "classics", and the entire volume can be seen as a comprehensive basic reference work.

The list of contributors includes: Birch, Escalona, Bayley, Wolff, Spitz, B. White, Provence, Rutter, Prechtel, Stone, etc. This representation of behavioral, developmental and medical sciences is carefully woven together by the editors in introductions to each section. The sections include: individuality in development, prenatal and preinatal development, the capabilities of the newborn, development during year one, early experience: deprivation and enrichment, and the social infant. Each section is packed with new and critical information: a rich compendium. (NAC)

Sullivan, H.S. The interpersonal theory of psychiatry. New York: W.W. Norton and Company, 1953.

Sullivan has offered a brilliant but difficult presentation of his bio-social psychiatric theory of development and dysfunction. Sullivan continually emphasizes a systems theoretic perspective on human development as a process of relatedness. Of crucial value are his discussions of the development of communication and mother-infant relations. (TZC)

Syracuse University, New York. Division of Special Education and Rehabilitation. A review of research: Implications for the head start handicapped effort. Washington, D.C., Office of Child Development (DHEW), 1974.

Research done in past 15 years is reviewed in regard to: a) preschool intervention programs and b) critical issues affecting the development of handicapped children and their families. Research studies and issues pertinent to the Head Start handicapped effort are discussed. Summarized conclusions are: "Recent preschool and intervention studies have attempted to place greater emphasis on a more total family and community involvement and most preschool intervention programs have excluded multiply handicapped and demonstrably disabled children." Implications drawn from this report are: Head Start should provide services for handicapped children (and families) at much earlier ages, and the "need for development of a realistic, manageable pedogogy for integrated preschool programs." (JL)

Thomas, A., Chess, S., & Birch, H. Temperament and behavior disorders in children. New York: New York University Press, 1968.

This volume contains Thomas, Chess, and Birch's extensively documented and persuasively argued presentation of their concept of congenital temperament types and their theory of interactionally "at-risk" infants and children. The various temperament types are defined in terms of particular constellations of infant activity and reactivity. The ideas of mother-infant interactional match or mismatch are discussed. Consequences of mismatch for dysfunctional development, assessment and modes of prediction, as well as issues of mediation are fully and cogently presented. (TZC)

Thomas, A., Chess, S., & Birch, H.G. The origin of personality. In Readings from Scientific American: Psychology in Progress. San Francisco, California: W.H. Freeman Company, 1975, 210-217.

By studying closely the behavior tendencies and patterns of 141 children from infancy to adolescence, the authors hypothesize that personality is shaped by the constant interplay of temperament and environment. Three general types of temperament were inferred by analyzing behavioral patterns: easy children, difficult children, slow to warm up children. If differing temperaments are hypothesized, then the interactions of children with such temperaments with those around them is critical--since adults may be likely to also possess differing *temperamental characteristics. Having a certain temperament is, therefore, not in and of itself a "problem", but an issue that must be negotiated with critical others in the environments of children. (NAC)*

Tulkin, S.R. & Cohler, B.J. Child-rearing attitudes and mother-child interaction in the first year of life. Merrill-Palmer Quarterly, 1973, 19, 95-105.

The relation between mothers' attitudes to child-rearing and their actual interactive behavior were compared. Mothers were separated into two groups based upon their responses to a questionnaire, based on Sander's "issues" perspective. That group of mothers, primarily middle class, whose responses reflected encouragement of reciprocity, displayed significantly greater and more positive interactive behavior than the second group of mothers who were primarily working class. (TZC)

Tunison, D.E. We found happiness. In W.C. Dvaraceus & E. Hayes (Eds.), If your child is handicapped. Boston: Porter Sargent, 1969, 26-31.

The importance of parental attitudes upon the acceptance of the handicapped child by family, friends, physicians, siblings and society is stressed. It is important that parents accept and love their handicapped child and at the same time foster, through education, greater public acceptance of all children. A healthy attitude on the part of the parents fosters a healthy attitude in the child towards his handicap. (PVAM)

Vanden Daele, C.D. Preschool intervention through social learning ERIC reports, ED 036, 316, 1969.

This summary on studies of preschool intervention through social learning indicates that a child's mode of orientation and his general level of competence and maturity are, in large part, derived from his social environment. To the extent that specific aspects of that environment can be identified as significant antecedents to behavioral inadequacies, remedial efforts should concern themselves with those aspects. "Disadvantaged" boys from father-absent homes exhibit a low level of maturity in their cognitive, affective, and behavioral processes. Yet, while this immaturity seems clearly to spring from social factors, preschools have traditionally stressed school readiness skills.

The problems experienced by disadvantaged boys seemed to be caused by a combination of: 1) paternal absense, 2) lack of appropriate masculine model, and 3) low social esteem of the male and male role. Remediation seems to require at least 1) a competent masculine model, 2) varied child-model instruction, and 3) reinforcement of the boy's imitating behavior. The presence of these conditions in a coordinated social-learning program yielded significant intellectual and emotional gains. Social-learning techniques can be used to supplement programs with specific enrichment goals, and may also be used to broaden the range of the "advantaged" as well as the "disadvantaged". (ABP)

Van Meter, M.J.S. Role strain among married college women. Unpublished doctoral dissertation, East Lansing: Michigan State University, 1976.

This study of married college women and their experience of role strain defined as "the felt difficulty in meeting role obligations" presents the following findings: 1) Stage of the family career has no significant influence on the amount of role strain the married college woman experiences. 2) Among the personal resources and family resources perceived by the married woman college student, the most significant influence on role strain was the emotional support she felt from her husband and family. 3) There is no significant relationship between role strain and degree completion. 4) Role strain has a negative relationship to total personal and marital satisfaction.

The author discusses equilibrium within the family system, and how role strain can be seen as a state of disequilibrium within the system. Some parents may experience role strain, particularly when they are faced with an extremely difficult child, and in this sense, the findings can be related to the socio-ecological model of adaptive behavior and functioning. (JS)

Vygotsky, L.S. Thought and language. Cambridge: M.I.T. Press, 1962.

Contained is the classic and continually provocative presentation of the leading Soviet perspective on early development. An evolutionary, motorically leading analysis of speech development and function is articulated. Vygotsky's discussions of the developmental relation of speech and thought, and the organizing functions of speech, along with his analysis of Piaget's views on language and thought continue to be instructive. (TZC)

Weikart, D.P. Early childhood special education for intellectually subnormal and/or culturally different children. Prepared for the National Leadership Institute in Early Childhood Development. Washington, D.C., 1971.

Weikart explicitly challenges earlier assumptions about "ameliorating" the "deficits" of the "disadvantaged": in particular, those members of the social strata who tend to function poorly on achievement and intelligence measures and become labeled "mentally retarded". Children from such categories when placed in the High Scope Preschool Program, have later (in first through third grades) failed less often and been placed in Special Education programs less often than similar children who have not had preschool experience. The style of the curriculum (open, structured, etc.) does not have a differential effect on the child's intellectual or achievement rates, although it is suggested that "a programmed approach may deter development."

Weikart's suggestion to abandon labeling and get to work providing mediation for "at-risk" youngsters is reflective of a progressive and aggressive approach in the area of mediation. (NAC)

Whiren, A.P. The effect of parent education on knowledge about and attitudes toward children's play. Unpublished doctoral dissertation, East Lansing: Michigan State University, 1976.

This study considers the effects of a learning-focused parent education program. The findings show this program did significantly increase parental knowledge about play, and also increased attitudes about play, but not significantly.

The author discusses the changes that occurred in the family system, the library system, and the parent education system, and the factors that influenced these systems to change or not to change. Especially relevant is the section on the changes in the family system. The mothers in the parent education program appeared to change because they were "functioning as elements of an open system to the flow of information from the parent education system...the best indicators of openness to new information were the pretest knowledge scores and a developmental conception of the family. Both of these indicators could be described as readiness factors for the new concepts in the intervention. The content of the intervention was based upon a developmental perspective. Therefore, as has been shown in other settings, the learner who has some information and a conceptual framework supportive of the program learns more than learners who do not have similar conceptions." This has some implications for preventive programs with "at-risk" family systems. (JS)

Wolff, S. Children under stress. London: Penguin Books, 1973.

A primarily psychoanalytic perspective on normal and deviant development, with particular emphasis placed on the effects of stress provoked by separation. A valuable discussion of home, hospital and various treatment environments in relation to whether or not these are supportive environments for children. A discussion of training parents and paraprofessionals concludes the volume. (TZC)

Yarrow, L.J. Conceptualizing the early environment. In American Handbook of Psychiatry, 1975, 15-26.

Recent theoretical developments in conceptualizing the early environment necessitate a systematic analysis of the child's early experiences in particular environments (i.e., home, day care, institution, foster homes, etc.). Yarrow distinguishes and discusses three major aspects of the environment; the inanimate environment, the human environment, and conditions under which these stimuli are provided. Each organism presents a "state" while receiving environmental input; this includes stimulus receptivity and response capabilities, which are a function of developmental level. Also included are the receptivity of the organism, which may be related to biological factors, changes in the organism resulting from past history, or immediate past experience.

These characteristics of the organism feed into an evaluative framework, when they are matched with how well the young child approximates goals for early years. Yarrow states these goals as relative to the development of the following: language, problem solving and cognitive skills; enduring relationships with people; appropriate reality orientation; initiative and spontaneity; control for handling drives; gratification in goal directed activity.

In specifying the features affecting the "state" of the organism, the types of environmental inputs, and recognized goals for the developing young child, the author provides a valuable schema. As Yarrow puts it, "there is some apparent conflict between the concept of sensitive adaptation to the child's characteristics and needs, and a therapeutic orientation of attempting to change the level of responsiveness of a child who does not interact appropriately with his environment" (p. 24-25). There is obviously some merit in investigating further this type of orientation and/or framework. (SS)